Kennedy/Jenks Consultants

FINAL
PHASE II SUBSURFACE INVESTIGATION
DOUGLAS AIRCRAFT COMPANY
C-6 FACILITY, PARCEL A
TORRANCE, CALIFORNIA

FOR McDONNELL DOUGLAS REALTY COMPANY 5 JUNE 1996 K/J 954019.01 VOLUME I OF III

### TABLE OF CONTENTS

### **VOLUME I**

			Page
1.0	EXEC	JTIVE SUMMARY	1
2.0	INTRO	DUCTION	2
	2.1	Purpose and Objective	2
3.0	SITE	DESCRIPTION	3
	3.1	Parcel A Description	3
	3.2	Parcel A History	3
	3.3	Regional Geology and Hydrogeology	4
	3.4	Local Geology and Hydrogeology	4
4.0	SAMPLING AND ANALYTICAL METHODS		6
	4.1	Drilling and Sampling Methods	6
	4.2	Sample Handling	. 8
	4.3	Sample Analytical Program	9
5.0	SAMPLE LOCATIONS AND INVESTIGATIVE FINDINGS		11
	5.1	Sample Site Number 1 Former Clarifiers in Building 34	11
	5.2	Sample Site Number 2 - Clarifiers at Building 37	12
	5.3	Sample Site Number 3 – Machine Pits in Building 37	13
	5.4	Sample Site Number 4 - Machine Shop Sump in Building 37	
	5.5	Sample Site Number 5 - Elevators in Building 61	18
	5.6	Sample Site Number 6 - Former Sump at Building 61	19
	5.7	Sample Site Number 7 - Sumps in Building 67	20
	5.8	Sample Site Number 8 – Clarifier at Building 67	21
	5.9	Sample Site Number 9 Former Containment Pit at Building	
	5.10	Sample Site Number 10 - Former Dark Room at Building 67	22

### TABLE OF CONTENTS

## (Continued)

			<u>Page</u>
	5.11	Sample Site Number 11 Floor Drains in Building 67	22
	5.12	Sample Site Number 12	
		Former Fuel Transfer Station at Building 44	23
	5.13	Sample Site Number 13 Former USTs in Building 29	24
	5.14	Sample Site Number 14 - Clarifiers in Building 29	25
	5.15	Sample Site Number 15 -	
		Former Hazardous Waste Accumulation Area at Building 29	25
	5.16	Sample Site Number 16	
		Former Cyanide Solution Storage Area in Building 33	27
	5.17	Sample Site Number 17 Clarifier at Building 36	27
6.0	CONCL	USIONS	29
7.0	REFERENCES		31

### LIST OF TABLES

<u>Table</u>		
1	Sampling and Analytical Program	
2	Soil Sample Analytical Results- Detected Organic Compounds	
3	Comparison of Site Soil Inorganic Chemical Concentrations with Common Soi	
	Concentrations and State Threshold Limit Values	

# LIST OF FIGURES

<u>Figure</u>	
1	Facility Location Map
2	Facility Layout and Subject Property Map
3	Building 29 Boring Locations and Chemical Distribution Map

- 4 Building 37 Boring Locations and Chemical Distribution Map
- 5 Building 61 Boring Locations and Chemical Distribution Map
- 6 Building 67 Boring Locations and Chemical Distribution Map

#### LIST OF APPENDICES

#### <u>Appendix</u>

A Boring Logs

**VOLUME II** 

B Chain of Custody Forms

C1-C5 Laboratory Reports

**VOLUME III** 

C6-C10 Laboratory Reports

#### 1.0 EXECUTIVE SUMMARY

McDonnell Douglas Realty Company retained Kennedy/Jenks Consultants to perform a Phase II subsurface investigation of the northern section of the Douglas Aircraft Company C-6 Facility in Torrance, California. The investigation was confined to the area identified by McDonnell Douglas Realty Company as Parcel A. Specific areas for the investigation were identified in an earlier preliminary site assessment as potential areas of environmental interest.

Samples were collected from depths of up to 35 feet below ground surface from 56 borings using hollow-stem auger, hand auger, and direct push techniques. Upper interval samples from each boring were generally analyzed for Total Recoverable Petroleum Hydrocarbons or Total Petroleum Hydrocarbons as diesel, and volatile organic compounds by a mobile laboratory located onsite. Deeper interval samples were analyzed for the same parameters where upper interval samples had detectable concentrations of chemicals of interest. In general, samples were also analyzed for California Code of Regulations metals in an offsite laboratory and select samples were also tested for polychlorinated biphenyls.

Soils encountered during the investigation were predominantly silts with varying amounts of clay and sand, and with clay and sand occasionally interbedded. No groundwater water was encountered during the drilling of this field program.

The results of the Phase II investigation of Parcel A identified only a limited number of areas of environmental interest. One location in Building 37 was identified as impacted by petroleum hydrocarbons in the upper 10 feet. Four locations were identified as impacted by low concentrations of chlorinated volatile organic compounds to the total tested depth of 25 feet bgs.

Sampling at one location in Building 37 indicated a limited area impacted by polychlorinated biphenyls.

#### 2.0 INTRODUCTION

This report summarizes the results of a Phase II subsurface investigation of a section, Parcel A, of the Douglas Aircraft Company (DAC) C-6 facility (C-6 facility) located at 19503 South Normandie Avenue in Torrance, California. The investigation was conducted by Kennedy/Jenks Consultants (Kennedy/Jenks) on behalf of McDonnell Douglas Realty Company (MDRC) in March and April 1996. The location of the C-6 facility is shown in Figure 1. A layout of the C-6 facility and an outline of Parcel A is shown in Figure 2.

## 2.1 Purpose and Objective

MDRC is considering development of Parcel A in the northern section of the C-6 facility. For the purpose of evaluating areas of potential environmental interest related to the development, environmental investigation work was conducted. In December 1995, MDRC retained Kennedy/Jenks to conduct a Phase I Environmental Site Assessment (PESA) of this parcel. During the performance of the PESA, Kennedy/Jenks identified 17 areas of potential environmental interest related to past or present operations within Parcel A.

The objective of this Phase II investigation was to evaluate the possibility that releases of hazardous substances could have impacted surrounding soils at the areas of potential environmental interest. The Phase II Investigation included subsurface soil sampling, monitoring for soil vapors during sampling, logging of soil types, and laboratory analysis for chemicals of interest anticipated from the PESA.

#### 3.0 SITE DESCRIPTION

The following sections describe Parcel A, the C-6 facility history, and the regional geologic setting.

#### 3.1 Parcel A Description

Parcel A is comprised of the northern portion of the C-6 facility located at 19503 South Normandie Avenue in Torrance, California (Figure 2). The topography of the facility is essentially flat with an elevation of approximately 50 feet above mean sea level (msl). Structures included in Parcel A include Buildings 29, 33, 34, 36, 37, 43, 57, 61, and 67, the northernmost tip of Building 1, the northern section of the employee parking lot, and the gravel yard to the east of Building 37 (Figure 2). Current operations at Parcel A consist of storage and warehousing.

Parcel A is bordered by West 190th Street on the north, South Normandie Avenue on the east, the remainder of the C-6 facility on the south, and a former metals plant (Industrial Light Metals) to the west. A railroad easement is located between the fence on the east side of Parcel A and Normandie Avenue. The surrounding properties to the north and the east consist mainly of light industrial and manufacturing facilities and office buildings. The Industrial Light Metals plant is presently being demolished. Activities at the C-6 facility to the south consist of storage and warehousing.

Manufacturing operations on Parcel A have been inactive for approximately the last 4 years. Most of the manufacturing equipment has been removed from the C-6 facility.

#### 3.2 Parcel A History

Aerial photos indicate that the C-6 facility was farmland prior to the 1940s. The C-6 facility was first developed by the Defense Plant Corporation (DPC) in 1941 as part of an aluminum reduction plant. The plant was operated by the Aluminum Company of America until late 1944

(CDM, 1991). In 1948, the property was acquired by the Columbia Steel Company (CSC). In March 1952, the US Navy purchased the property from CSC and established DAC as the contractor and operator of the facility for the manufacturing of aircraft and aircraft parts. DAC purchased the C-6 facility from the Navy in 1970 (CDM, 1991).

Structures on Parcel A were constructed and renovated at various times. Parts of Buildings 29, 33, 34, 36, 37, and 43 were part of the original construction of the DPC facility in 1941. Buildings 29 and 37 were renovated and enlarged to the north in the late 1960s and early 1970s. Buildings 57 and 61 were constructed in the early 1950s. Building 67 was constructed in the 1960s.

## 3.3 Regional Geology and Hydrogeology

Regionally, the C-6 facility is located in the Torrance Plain. Subsurface sediments in this region consists mainly of Recent alluvial deposits of gravel, sand, clay, and silt to a depth of approximately 175 feet below ground surface (bgs).

According to Department of Water Resources (DWR, 1961), the C-6 facility is located in the Torrance Plain and underlain by the Bellflower Aquitard in the upper approximately 100 feet bgs and by the Gage Aquifer, a water-bearing zone within the Lakewood Formation, from approximately 110 to 160 feet bgs. The Lakewood Formation extends to a depth of approximately 175 feet bgs. Beneath the Lakewood Formation is the San Pedro Formation, which extends to a depth of approximately 1,000 feet bgs. Water-bearing zones in the San Pedro Formation consist of the Lynwood Aquifer from approximately 300 to 390 feet bgs and the Silverado Aquifer from approximately 400 to 670 feet bgs (DWR, 1961). The Silverado Aquifer is considered a source of drinking water.

## 3.4 Local Geology and Hydrogeology

In the Phase I investigation, Kennedy/Jenks reviewed boring logs from demolition plans of Building 67 dated 2 February 1968 and a Phase II subsurface soils investigation performed in 1991 (CDM, 1991). The reports showed that the C-6 facility is underlain by fine-to medium-

grained sand, silty sand, and clayey sand. Borings from both investigations were advanced to a depth of approximately 30 feet below ground surface (bgs).

Subsurface soils encountered at locations drilled during this Phase II investigation, were similar in classification. Drilling to a maximum depth of 36 feet bgs penetrated an interbedded unit comprised of fine-grained sediments. The predominant soil type to this depth is silt. The silt units vary in thin intervals to clayey silt, silty clay, and sandy silt. Clay and silty sand were also found interbedded in the silt unit. Boring logs indicate that the subsurface sediments are sandier to the west (west of Building 37). Soils are generally a light brown to olive brown, with occasional gray silts noted. Though coloring was fairly consistent throughout the drilled areas, the silt varied from soft to hard.

Soils encountered were predominantly dry with occasional damp to moist intervals. No groundwater was encountered during the drilling of this field program. According to recent groundwater monitoring performed by Kennedy/Jenks for DAC (Kennedy/Jenks, 1996), local groundwater elevations range from approximately 15.5 feet to 16 feet below msl (approximately 65 feet bgs). Recent and historical data suggest that the groundwater flow direction is to the southeast.

#### 4.0 SAMPLING AND ANALYTICAL METHODS

To accomplish the Phase II objectives and document proper protocol for the work, a summary workplan was prepared and reviewed with field staff prior to initiating field work. Following the workplan, drilling and sampling methods were conducted in accordance with Kennedy/Jenks Standard Operating Guides. The Guides incorporate industry professional standards for routine sampling, and are designed to meet general regulatory agency requirements and result in litigation quality work. A site health and safety plan was also prepared and reviewed with field staff prior to conducting field activities. Field safety meetings were conducted with Kennedy/Jenks and subcontract staff at the beginning of each day to review physical and chemical hazards, and emergency procedures related to the work.

The field work was conducted in the period from 25 March through 8 April 1996. Soil sampling locations are illustrated in Figures 3 through 7. The specific sampling techniques and sample analytical program are detailed in Table 1. Analytical work was conducted by California certified laboratories using standard EPA test methods and appropriate state-required modifications. Two mobile laboratories were employed; one for petroleum hydrocarbon analysis and one for volatile organic compound (VOC) analysis, and a stationary laboratory was contracted for metals and polychlorinated biphenyl (PCB) analysis.

## 4.1 Drilling and Sampling Methods

Field activities were initiated with selection of sampling locations, geophysical screening for certain underground obstructions, and coring of concrete paving to access subsurface soils. Several planned drilling locations inside Building 37 were moved due to the difficulty in penetrating the concrete bottoms of backfilled machine pits (Pits J, K, M, N, and O). At these locations, remaining open machine-pit areas were filled and previously filled areas were smoothed using a backhoe to allow access by the drill rig. Borings were then advanced adjacent to the apparent former sump locations, based on a comparison to shapes of open machine pits and visible ladder apparatus. Additional concrete coring was conducted during the drilling program at locations where drill bit penetration was refused by heavy concrete reinforcement.

Sampling was accomplished using direct-push, hollow-stem auger, and hand-auger methods. The push technology uses a truck-mounted or portable hydraulically driven sampler or core barrel that allows penetration and standard sampling without the generation of drill cuttings. The sampler for the push tool was fitted with 1.5-inch diameter, 6-inch long brass sleeves. The method was used at locations where access allowed. No residuals were generated using this equipment. The 2-inch diameter holes were backfilled with hydrated bentonite chips. A total of 30 borings placed throughout Parcel A were sampled using this equipment (Table 1).

A mobile B-53 hollow-stem auger rig was used to drill and sample at the backfilled machine pits in Building 37. The rig was equipped with a concrete bit to drill through concrete at the bottom of each pit. Due to the heavy reinforcement of the pit bottoms however, penetration was refused and borings were advanced adjacent to the apparent sump locations outside of the pits, as previously described. Sampling was conducted using a standard split-spoon sampler fitted with 2-inch diameter, 6-inch long brass sleeves. Cuttings from these 6.75-inch diameter borings were drummed and the holes were backfilled to grade with cement-bentonite grout. A total of 11 borings were drilled and sampled with this hollow-stem auger rig, all in Building 37 (Table 1).

A limited access hollow-stem auger rig was used to drill and sample in several open machine-pits in Building 37. This small rig was lowered into each accessible pit using a forklift. Concrete bottoms of up to 5-feet thick were cored by a contractor prior to drilling at these locations. Sampling was conducted using a standard split-spoon sampler fitted with 2-inch diameter, 6-inch long brass sleeves. Cuttings from these 6-inch diameter borings were drummed and the holes were filled to grade with cement-bentonite grout. A total of 11 borings were advanced using the limited-access rig, all in Building 37 (Table 1).

Where access did not allow use of mechanical drilling equipment, test holes were advanced with a hand auger. Samples were collected with a hand-operated drive sampler fitted with one 6-inch long brass sleeve. A total of three shallow holes were sampled using this equipment in two areas of Building 67. At a fourth location in Building 67 (Sample Site 7B), the hand auger

could not be advanced due to subsurface obstructions. The hand-auger holes were backfilled with bentonite chips.

At each of the deeper test locations, the soil types encountered were logged using the Unified Soil Classification System (USCS). Boring logs are included in Appendix A.

Drummed cuttings were labeled, inventoried, and stored at the C-6 facility for later disposal by DAC.

#### 4.2 Sample Handling

Soil samples were collected in brass sleeves that were covered with Teflon<sup>TM</sup> sheets, capped, labeled, and bagged. For each sampling interval, three sleeves were collected for laboratory analysis, one for each of the two mobile laboratories on location and one for the offsite laboratory. Samples were identified with the boring number and depth using a predetermined nomenclature. For Building 37, where most of the drilling was conducted, an example identification code is:

3K-1-5

3K- for sample site  $\underline{3}$  in machine-pit  $\underline{K}$  -

- 1- at the north end of the pit
- 5 at the depth interval beginning at 5 feet bgs and extending to 6.5 feet bgs.

Samples were placed in ice-cooled insulated containers upon collection and transported to the onsite mobile laboratory at the completion of a boring or transferred to the offsite laboratory by courier at the end of each day. Sample custody was maintained by the field sampler or field supervisor until transfer to one of the laboratories. Sample custody is documented on standard chain-of-custody forms included in Appendix B.

### 4.3 Sample Analytical Program

Analytical methods were selected for potential chemicals of interests based on the PESA findings. Analytical methods selected and the number of samples analyzed for each boring are detailed in Table 1 and summarized below.

- Samples collected at locations with potential volatile organic compound (VOC) releases were analyzed in an onsite mobile laboratory by EPA Method 8010 and EPA Method 8020.
- Samples collected at locations with potential petroleum hydrocarbon releases were analyzed in an onsite mobile laboratory by EPA Method 418.1 for Total Recoverable Petroleum Hydrocarbons (TRPH).
- Samples collected at a location with potential diesel fuel releases were analyzed in an onsite mobile laboratory by modified EPA Method 8015 for Total Petroleum Hydrocarbons as diesel (TPHd).
- Samples collected at locations with potential heavy metals releases were analyzed in an offsite laboratory by EPA Method 6010 for California Code of Regulations-listed metals (CCR metals).
- Samples collected at locations with potential polychlorinated biphenyl (PCB) releases
   were analyzed in an offsite laboratory by EPA Method 8080 for PCBs.
- Samples collected at a location with potential cyanide releases were analyzed in an offsite laboratory by EPA Method 335.3 for total cyanides.

One onsite mobile laboratory operated by Transglobal Environmental Geochemistry (TEG) was maintained for sample analysis by EPA Method 418.1 for TRPH. TEG also maintained a second onsite mobile laboratory for sample analysis by EPA Method 8010/8020 for VOCs and

modified EPA Method 8015 for TPHd. Separate onsite laboratories were required because of potential interferences caused by analytical reagents used for EPA Method 418.1.

All samples shipped off-site for analysis were transported to Quanterra Environmental Services in Santa Ana, California. Quanterra performed the following analyses on samples, as required:

- EPA Method 335.3 for total cyanides;
- EPA Method 6010 for CCR metals; and
- EPA Method 8080 for PCBs.

### 5.0 SAMPLE LOCATIONS AND INVESTIGATIVE FINDINGS

The following sections describe the 17 individual areas of environmental interest identified during the PESA, and the investigative and analytical methods performed to evaluate each area. At most sample sites, borings were advanced to 25 feet bgs, and soil samples were collected on five-foot intervals. The first two samples collected were analyzed by selected laboratory methods based on the chemicals of potential interest. Subsequent laboratory analysis was performed on the sample collected at the next lower interval if chemicals of interest were detected.

Boring locations and sample sites are indicated on Figures 3 through 7. The distribution of detected concentrations of chemicals of interest are also shown on these figures. Table 2 presents a summary of detected organic chemicals of potential interest for the investigation. The table shows all chemicals detected in one or more samples, and the results of all tested samples from each boring where any chemical detections were reported. Complete analytical data are presented in the laboratory reports in Appendix C. Table C.1 at the beginning of Appendix C provides a table of contents for laboratory reports by specific sample location and test method. Table 3 presents the range of CCR metals detected in the Parcel A investigation, published common ranges of these metals in surface soils of the Western United States, and CCR Title 22 Soluble and Total Threshold Limit Concentration values.

# 5.1 Sample Site Number 1 - Former Clarifiers in Building 34

During the performance of the PESA, DAC personnel stated that a concrete pad on the north side of Building 34 was the former location of clarifiers. The area was sampled to evaluate the potential for a release of hazardous materials from the clarifiers to have impacted surrounding soils.

Samples were collected on 5-foot intervals from one boring advanced to 25 feet bgs by the direct-push sampling system (Figure 5). The samples collected from 5 and 10 feet bgs were

analyzed for VOCs by EPA Method 8010/8020, for TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 1 are as follows:

- TRPH was not detected at or above the detection limit of 10 milligrams per kilogram (mg/Kg).
- VOCs were not detected at or above the detection limit of 5 micrograms per kilogram (Tg/Kg).
- CCR metal concentrations were within expected ranges and below regulatory limits.

# 5.2 Sample Site Number 2 - Clarifiers on the east side of Building 37

Two clarifiers were observed on the east side of Building 37 during the PESA. Sampling was conducted to evaluate the potential for a release of hazardous materials to have impacted surrounding soils.

One boring was advanced adjacent to each of the clarifiers (Figure 4) to 25 feet bgs by the direct-push sampling system. Samples were collected on 5-foot intervals. The samples collected from 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1, for CCR metals by EPA Method 6010, and for VOCs by EPA Method 8010/8020. The samples collected from 15, 20, and 25 feet bgs at location 2A were analyzed for VOCs.

Laboratory results from seven analyzed samples collected at sample site number 2 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

- VOC analysis of the five samples from location 2A showed 1,1-Dichloroethane (1,1-DCA) in sample 2A-5 at a concentration of 7.5 μg/Kg. Trichloroethene was detected in samples 2A-10 (5.0 μg/Kg), 2A-15 (8.1 μg/Kg), and 2A-25 (5.4 μg/Kg).
   VOCs were not detected in the two samples from location 2B at or above the detection limit of 5 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

# 5.3 Sample Site Number 3 - Machine Pits in Building 37

Fifteen machine pits in Building 37 were identified in the PESA as potential environmental interests due to large quantities of machine and hydraulic oils that were continuously stored in sumps within the pits during manufacturing operations. For the purposes of this environmental investigation, each pit was labeled with a letter and referenced by that letter during soil sampling activities. The locations of the pits and boring locations are illustrated in Figure 4.

Because the machine pits were in varying conditions and sizes, several different methods were used to sample soils from beneath each pit. Select samples from the machine pit areas were analyzed for VOCs by EPA Method 8010/8020, TRPH by EPA Method 418.1, CCR metals by EPA Method 6010, and PCBs by EPA Method 8080.

The following paragraphs detail the sampling procedures for each of the different pit conditions.

#### Machine Pits A, D, F, I, and L

Machine pits A, D, F, I, and L had all machinery and equipment removed from them. Pits F, I, and L measure approximately 120 feet long, 30 feet wide, and 6 feet deep. Pits A and D are approximately 40 feet long, 30 feet wide, and 6 feet deep. Sample locations were selected that would avoid embedded structures within the concrete slab (as indicated on historical

drawings provided by DAC) while attempting to stay as close to collection sumps and expansion joints as possible.

One boring was advanced in pit D. Two borings were advanced in pits A, I, and L. Three borings were drilled in pit F. A concrete contractor was retained to core the concrete floor in the bottom of each pit. Concrete floor thickness ranged from two to five feet. A hollow-stem auger rig was then lowered with a forklift into the pits to perform soil sampling. Samples were collected on 5-foot intervals to 25 feet below the bottom of the concrete slab.

One of the collection sumps in pit D was adjacent to the aisleway, allowing use of the direct-push sampling system at this location.

Laboratory results from analyzed samples collected from the first two intervals at pits A, D, F, I, and L are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in boring 3F-2 in samples collected from a drilled depth of 5.5 feet
   (11 feet bgs) included benzene (5.0 μg/Kg), ethylbenzene (58.0 μg/Kg), toluene
   (18.6 μg/Kg), and xylenes (15.0 μg/Kg). VOCs were not detected in the other
   analyzed samples above the detection limits of 5 μg/Kg.
- PCBs were not detected at or above the detection limit of 33 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

#### Machine Pits B and C.

Pits B and C are each approximately 60 feet long, 20 feet wide, and 6 feet deep. Remaining equipment and machinery in pits B and C prevented sampling through the bottom of these pits. Pits B and C each had two collection sumps. Because the collection sumps for these pits were

adjacent to the west wall of Building 37, access to surrounding soils was gained by angle-boring to a depth of 36 feet bgs from the outside of the building with the direct-push sampling system. However, electrical equipment located outside of the building prevented access to the sample location for the northern sump in pit B; samples were not collected in the vicinity of this sump. Two borings were sampled at pit C and one boring was sampled at pit B.

Laboratory results from analyzed samples collected from the first two intervals at pits B and C are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5  $\mu$ g/Kg.
- PCBs were not detected at or above the detection limits of 33 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

#### Machine Pit E

Pit E consists of a floor trench drainage system that flows to two collection sumps. Both of the sumps contained a liquid that appeared to be hydraulic oil or cutting lubricant. Two borings were sampled on 5-foot intervals to 25 feet bgs.

Laboratory results from analyzed samples collected from the first two intervals at pit E are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- PCBs were not detected at or above the detection limit of 33 μg/Kg.

CCR metal concentrations were within expected ranges and below regulatory limits.

#### Machine Pits G and H

Machine Pits G and H were previously backfilled with soil and capped with concrete. The pits measure approximately 25 feet long and 25 feet wide. The depth of the pits is not known. One boring was advanced to 25 feet bgs with the direct-push sampling system at a location adjacent to each pit.

Laboratory results from analyzed samples collected from the first two intervals at pits G and H are as follows:

- TRPH was detected in the sample collected from boring 3G at 5 feet bgs at 5,700 mg/Kg. TRPH was not detected at or above the detection limit of 10 mg/Kg in the 10-foot sample from this boring or in the other analyzed samples.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- PCBs were not detected at or above the detection limit of 33 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

## Machine Pits J, K, M, N, and O

Machine pits J, K, M, N, and O were previously backfilled with soil. Pits K and J were also capped with a concrete slab. Each of these pits measured approximately 120 feet long and 30 feet wide. Based on an examination of several of the collection sumps that were not

completely backfilled, the collection sumps were believed to have been approximately 10 feet deep.

Two or three borings were advanced in each pit adjacent to the collection sumps. A concrete contractor was retained to core the concrete floor adjacent to each collection sump. Soil borings were advanced with the hollow-stem auger rig. Samples were collected on 5-foot intervals from 10 to 25 feet bgs. The samples from 10- and 15-foot intervals from all borings were analyzed. Samples were also analyzed from 20 and 25 feet bgs at boring 3K-2, 30-1, and 30-2.

Laboratory results from analyzed samples collected from pits J, K, M, N, and O are as follows:

- TRPH was detected in the 10-foot samples from borings 3J-2 (23 mg/Kg), 3N-1 (157 mg/Kg), and 3N-2 (134 mg/Kg), but not in the 15-foot samples from these borings. TRPH was not detected at or above the detection limit of 10 mg/Kg in the other analyzed samples.
- VOCs were detected in several of the analyzed samples in the form of 1,1dichloroethene (1,1-DCE) and TCE; no other VOCs were detected.
  - 1,1 DCE was detected in 3K-2-10 (8.0 μg/Kg) and 3O-1-10 (5.0 μg/Kg). The 10-, 15-, 20-, and 25-foot samples from 3O-2 contained 1,1-DCE in concentrations ranging from 20.7 μg/Kg (25 feet) to 76.6 μg/Kg (20 feet).
  - TCE was detected in the 10-, 15-, 20-, and 25-foot samples from 3K-2 in concentrations ranging from 8.4 μg/Kg (20 feet) to 97.0 μg/Kg (10 feet). The 10-, 20-, and 25-foot samples from 3O-1 contained TCE in concentrations ranging from 7.2 μg/Kg (10 feet) to 13.5 μg/Kg (20 feet). TCE was also detected in the 10-, 15-, 20-, and 25-foot samples from 3O-2 in concentrations ranging from 81 μg/Kg (15 feet) to 242 μg/Kg (20 feet).

- PCBs were detected in samples from boring 3J-2 at 10 feet bgs (9,800 μg/Kg), and 15 feet bgs (130 μg/Kg), and in boring 3O-2 at 10 feet bgs (36 μg/Kg). PCBs were not detected at or above the detection limit of 33 μg/Kg in the other analyzed samples. For sample 3M-2-10, PCBs were reported as not detected at or above the detection limit of 67 μg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

## 5.4 Sample Site Number 4 - Machine Shop in Building 37

During the PESA, a parts degreaser and collection sump were observed in a machine shop in the eastern section of Building 37. DAC records indicated that previous chemicals used at this location included the solvent 1,1,1-trichloroethane.

One boring was advanced with the limited access rig to 25 feet bgs at a location adjacent to the solvent tank sump (Figure 4). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 4 are as follows:

• VOCs were not detected at or above the detection limits of 5  $\mu g/Kg$ .

# 5.5 Sample Site Number 5 -- Elevators in Building 61

Two hydraulic lift elevators in Building 61 were identified in the PESA as potential environmental interests due to associated underground hydraulic equipment.

One angle-boring was advanced beneath each lift with the direct push sample system to approximately 35 feet bgs (Figure 5). One sample was collected from each boring at a drilled depth of 35 feet. The samples were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 5 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

## 5.6 Sample Site Number 6 - Former Sump at Building 61

Historical drawings reviewed during the PESA identified a former collection sump near the exterior northeast corner of Building 61. DAC facility records did not indicate when the sump was removed or the condition of the sump upon removal.

A metal fence presently crosses over the former location of the collection sump. One angle-boring was advanced by the direct-push sampling system from outside of the fence (Figure 5). Samples were collected on 5-foot intervals to 25 feet bgs. The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020 and CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 6 are as follows:

- VOCs were not detected at or above the detection limits of 5  $\mu g/Kg$ .
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

## 5.7 Sample Site Number 7 -- Sumps in Building 67

A collection sump, a secondary containment area for a metal plating process line, and a containment pit for a parts degreaser were observed in a room in the central western portion of Building 67 during the PESA. Some of the equipment, including the process tanks and degreasing tank, are still in place.

Four locations were selected and cored for subsurface sampling. The portable direct-push sampling system advanced borings to 25 feet bgs on the east side of the process tanks (boring 7C) and adjacent to the collection sump (boring 7A) (Figure 6). Boring 7D was advanced to 35 feet bgs between the process tanks and the degreaser containment pit. Hand-auger boring 7B was attempted on the west side of the process tanks, but a utility line was encountered approximately 6 inches beneath the concrete slab, and the boring was abandoned.

Samples from each of the borings were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs from borings 7A and 7C, and at 10, 15, and 20 feet bgs from boring 7D were analyzed for VOCs by EPA Method 8010/8020 and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 7 are as follows:

- 1,1-DCE was detected in sample 7C-5 at 16 μg/Kg. Sample 7D-10 contained concentrations of 1,1-DCA (8.3 μg/Kg) and 1,1,2-trichloroethane (1,1,2-TCA) (19 μg/Kg).
   1,1,2-TCA was also detected in samples 7D-15 (7.9 μg/Kg) and 7D-20 (18 μg/Kg). Sample 7D-20 also contained 1,2-DCA (8.7 μg/Kg). VOCs were not detected at or above the detection limits of 5 μg/Kg in the other analyzed samples.
- CCR metal concentrations in the analyzed samples were within expected ranges
  and below regulatory limits. Hexavalent chromium, for which published data on
  natural concentrations in soil are not available, was detected in sample 7A-10 at a
  concentration of 1.0 mg/Kg, below the regulatory criteria for hazardous waste.

### 5.8 Sample Site Number 8 -- Clarifier at Building 67

During the PESA, one clarifier was observed near the northwest exterior corner of Building 67.

One boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system. Samples were collected on 5-foot intervals (Figure 6). The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020, for TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 8 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.9 Sample Site Number 9 - Former Containment Pit at Building 67

During the PESA, a former containment pit was observed at the south end of Building 67. All equipment had been removed from the containment pit, and the containment pit had been steam cleaned. According to DAC personnel, the pit formerly housed an electric discharge machine, which used high voltage electricity and dielectric oils to remove machine burrs from aircraft parts.

One soil boring was advanced by hand-auger techniques to 10 feet below the bottom of a collection sump in the northwest corner of the pit (Figure 6). Soil samples were collected from

5 and 10 feet bgs and analyzed for TRPH by EPA Method 418.1 and for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 9 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in sample 9-10 included 1,1,2-TCA (6.4  $\mu$ g/Kg) and TCE (10.8  $\mu$ g/Kg). VOCs were not detected at or above the detection limits of 5  $\mu$ g/Kg in the 5-foot sample.

## 5.10 Sample Site Number 10 -- Former Dark Room in Building 67

A former dark room was observed in the central eastern portion of Building 67 during the PESA. The dark room processed x-ray film.

Two soil borings were advanced to 5 feet bgs by hand auger techniques (Figure 6). Boring locations were selected near subsurface drainage junctions that were apparent from surface settlement. Soil samples were collected at 2 and 5 feet bgs. The samples were analyzed for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 10 are as follows:

 CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

## 5.11 Sample Site Number 11 -- Floor Drains in Building 67

Dark-stained floor drains and surrounding stained floor areas were observed during the PESA in a former air compressor room in the northeast section of Building 67.

Two borings were advanced to 25 feet bgs with the direct-push sampling system at locations adjacent to the floor drains (Figure 6). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 11 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

## 5.12 Sample Site Number 12 -- Former Fuel Transfer Station at Building 44

Historical maps reviewed during the PESA indicated the presence of a former railcar fuel transfer station to the southwest of Building 44. The historical drawings also indicated the presence of underground fuel transfer lines leading from Building 44 to Building 41.

Two soil borings (12A and 12B) were advanced with the direct-push sampling system to 25 feet bgs near the approximate locations of the transfer station and the underground pipeline (Figure 4). Soil samples were collected on 5-foot intervals. The samples collected from 5, 10 and 15 feet bgs from boring 12A and all five samples from boring 12B were analyzed for TPHd by modified EPA Method 8015.

Laboratory results from analyzed samples collected from borings 12A and 12B at sample site number 12 are as follows:

 The TPHd concentration in sample 12B-15 was 200 mg/Kg. TPHd concentrations in the other analyzed samples from above and below this interval in boring 12B were below the detection limit of 10 mg/Kg. TPHd concentrations in analyzed samples from boring 12A were below the detection limit of 10 mg/Kg.

The containment area around the above ground storage tanks was identified as an area of potential environmental interest. One soil boring (12C) was advanced to 25 feet bgs at a

location within the containment area of the southern aboveground tank. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1 and all five samples were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected from boring 12C at sample site number 12 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- TCE concentrations were detected in samples 12C-5 (7.8 μg/Kg), 12C-10 (16.2 μg/Kg), 12C-15 (69.2 μg/Kg), and 12C-20 (24.8 μg/Kg). TCE was not detected at or above the detection limit of 5 μg/Kg in the 25-foot sample. Other VOCs were not detected at or above the detection limits of 5 μg/Kg in the analyzed samples.

## 5.13 Sample Site Number 13 - Former USTs in Building 29

Historical drawings reviewed during the PESA indicated that two underground storage tanks (USTs) were formerly located in an area of Building 29 that was not developed. Sample locations were selected inside of the present structure that corresponded to the tank locations shown on the drawings.

One boring was advanced to 25 feet bgs at each former tank location with the direct-push sampling system (Figure 3). The samples collected at 5 and 10 feet bgs from boring 13A and all five interval samples from boring 13B were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 13 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

## 5.14 Sample Site Number 14 - Clarifier in Building 29

During the PESA, a clarifier with its covers welded shut was observed in a paint booth area in the central eastern section of Building 29.

One soil boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system (Figure 3). The samples collected at 5 and 10 feet were analyzed for VOCs by EPA Method 8010/8020, TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 14 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.15 Sample Site Number 15 - Former Hazardous Waste Accumulation Area at Building 29

A concrete pad to the east of the northeast corner of Building 29 was formerly used as a hazardous waste accumulation area. C-6 facility records showed that limited environmental sampling had indicated that soils beneath the concrete pad may have been impacted by TCE.

One soil boring was advanced to 25 feet bgs with the direct-push sampling system (Figure 3). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1 and for CCR metals by EPA Method 6010. All five interval samples were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 15 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in 5-, 10-, 20-, and 25-foot samples include 1,1-DCA, 1,1-DCE, PCE, 1,1,1-TCA, 1,1,2-TCA and TCE. VOCs were not detected at or above the detection limits of 5 μg/Kg in 15-15. The detected concentrations of these compounds ranged from 5.4 μg/Kg to 202 μg/Kg. The highest concentrations of 1,1-DCA (60 μg/Kg), 1,1-DCE (18.6 μg/Kg), PCE (202 μg/Kg), 1,1,1-TCA (13.5 μg/Kg), and TCE (200 μg/Kg) were found in the bottom sample from the boring (25-foot interval).
  - 1,1-DCA concentrations reported in four samples ranged from 18.4  $\mu$ g/Kg (15-20) to 60  $\mu$ g/Kg (15-25).
  - 1,1-DCE was detected in 15-25 at 18.6 μg/Kg.

PCE was detected in four samples in concentrations ranging from 56.8  $\mu$ g/Kg (15-10) to 202.0  $\mu$ g/Kg (15-25).

- 1,1,1-TCA was detected in 15-10 at 7.4  $\mu g/Kg$ , and 15-25 at 13.5  $\mu g/Kg$ .
- 1,1,2-TCA concentrations reported in four samples ranged from 5.4  $\mu$ g/Kg (15-5) to 24.5  $\mu$ g/Kg (15-10).

TCE concentrations reported in four samples ranged from 17.8  $\mu$ g/Kg (15-10) to 200.0  $\mu$ g/Kg (15-25).

 CCR metals concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.16 Sample Site Number 16 -- Former Cyanide Solution Storage Area in Building 33

Historical drawings reviewed during the PESA indicated that Building 33 was a former cyanide solution storage building.

One boring was advanced to 25 feet bgs with the direct-push sampling system inside of the building (Figure 5). The samples collected at 5 and 10 feet were analyzed for total cyanides by EPA Method 335.3, and for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 16 are as follows:

- Total cyanides in the analyzed samples were below the detection limit of 0.5 mg/Kg.
- VOCs were not detected at or above the detection limit of 5 μg/Kg.

## 5.17 Sample Site Number 17 - Clarifier at Building 36

One clarifier was observed during the PESA on the north exterior of Building 36.

One boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system (Figure 4). The samples collected at 5, 10, 15, 20, and 25 feet bgs were analyzed for VOCs by EPA Method 8010/8020, and for TRPH by EPA Method 418.1. Samples collected at 5 and 10 feet bgs were also analyzed for CCR Metals by EPA Method 6010.

Laboratory results from analyzed samples collected at site number 17 are as follows:

- Sample 17-10 contained concentrations of TRPH at 179 mg/Kg. TRPH was not detected at or above the detection limits of 10 mg/Kg in the other analyzed samples from 5, 15, 20 and 25 feet bgs.
- VOCs detected in sample 17-10 included 1,1-DCE (30 μg/Kg) and TCE (95 μg/Kg).
   TCE was also detected in samples 17-15 (7.1 μg/Kg), 17-20 (10.3 μg/Kg), and 17-25 (272 μg/Kg). Sample 17-25 also contained 1,1-DCE (162 μg/Kg) and cis-1,2-DCE (19.2 μg/Kg). Other VOCs were not detected at or above the detection limits of 5 μg/Kg in the analyzed samples. No VOCs were detected in the sample from 5 feet bgs.
- CCR metal concentrations in the analyzed samples from 5- and 10-foot intervals were within expected ranges and below regulatory limits.

#### 6.0 CONCLUSIONS

Seventeen sampling locations in areas of environmental interest in and around eight buildings in Parcel A of the DAC C-6 Facility were investigated. The results of the Phase II Investigation identified only a limited number of areas of continued environmental interest.

TRPH was detected at a maximum concentration of 5,700 mg/Kg at 5 feet bgs at machine pit G in the north end of Building 37 (sample site 3G). TRPH was neither detected in the sample analyzed from 10 feet bgs at this location, nor detected in the closest samples to the south from machine pit H. These data suggest a small area of limited lateral and vertical extent of TRPH impacted soils that the contractor should be aware of during demolition.

TPHd was detected at a maximum concentration of 200 mg/Kg at 15 feet bgs north of Building 44 near the location of the former fuel transfer line (sample site 12-B). TPHd was not detected in the samples from 5, 10, 20, and 25 feet bgs in this location, suggesting a limited vertical extent of impacted soils.

VOCs were detected at the former waste accumulation area north of Building 29 (sample site 15) to a total depth of 25 feet bgs. The maximum concentration of individual VOCs was 60.0  $\mu$ g/Kg 1,1-DCA (25 feet bgs), 202.0  $\mu$ g/Kg PCE (25 feet bgs), 18.6  $\mu$ g/Kg 1,1-DCE (25 feet bgs), 13.5  $\mu$ g/Kg 1,1,1-TCA (25 feet bgs), 24.5  $\mu$ g/Kg 1,1,2-TCA (10 feet bgs) and 200.0  $\mu$ g/Kg TCE (25 feet bgs). This area should be monitored during demolition activities and possibly investigated further to determine the vertical extent of the detected VOCs.

VOCs were detected at the clarifier adjacent to Building 36 at 25 feet bgs (sample site 17). The maximum concentration of individual VOCs, primarily found at 25 feet bgs, was 1,1-DCE (162  $\mu$ g/Kg), cis-1,2-DCE (19.2  $\mu$ g/Kg) and TCE (272 mg/Kg). Of these compounds, only TCE had detections at shallower sampling levels. 1,2-DCA was found in the 10 foot sample at 30  $\mu$ g/Kg. This area is immediately north of an area of previously detected VOCs and may reflect the northwestern extent of the area which originates outside of Parcel A.

VOCs were detected beneath the southernmost machine pits (pits O and K) in Building 37 (sample sites 3k and 30). The maximum concentration of individual VOCs beneath pit O was 1,1-DCE (76.6  $\mu$ g/Kg) at 20 feet bgs and TCE (242.0  $\mu$ g/Kg) at 20 feet bgs, and beneath pit K was 1,1-DCE (8.0  $\mu$ g/Kg) at 10 feet bgs and TCE (97.0  $\mu$ g/Kg) at 10 feet bgs. Both pits also had detections of TCE at 25 feet bgs. These data suggest that vapors from the VOC impacted area at Building 36 may extend beneath the southern portion of Building 37. This area should be monitored during demolition activities.

At machine pit J in Building 37 (sample site 3J), PCBs were found at 10 feet bgs at a concentrations of 9,800  $\mu$ g/Kg. PCB concentrations decreased with the depth in the succeeding sample decreased to 130  $\mu$ g/Kg. The Total Threshold Limit Concentration value (CCR Title 22) defines a California hazardous waste. For PCBs in soil, the TTLC value is 10,000  $\mu$ g/Kg. These data suggest an area of limited vertical and lateral extent which should be monitored during demolition activities.

At machine pit F in Building 37 (sample site 3F), BTEX concentrations in a sample collected from 5 feet bgs ranged from 5.0  $\mu$ g/Kg to 58.6  $\mu$ g/Kg. BTEX concentrations were not detected at or above the detection limits in the 10 foot sample, suggesting that impact by BTEX does not extend to 10 feet bgs.

#### 7.0 REFERENCES

California Department of Water Resources, June 1961, Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County, CDWR Bulletin No. 104.

Lindsay, Willard J., 1979, Chemical Equilibria in Soils: New York, John Wiley & Sons.

Shacklette, H.T., and Boerngen, J.G., 1984, U.S. Geological Survey Professional Paper 1270.

Camp Dresser & McKee Inc., 1991, Phase I Environmental Assessment of the Douglas Aircraft C-6 Facilty, Parking Lot and Tool Storage Yard, Los Angeles, California.

## TABLE 1 SAMPLING AND ANALYTICAL PROGRAM<sup>a</sup>

Douglas Aircraft Company C-6 Facility Torrance, California May, 1996 K/J 954019.01

Sample	Boring	Collection				Analysis			
Site	Number	Method	418.1 <sup>b</sup>	8010/8020°	8015-M <sup>d</sup>	8010/8020	6010°	8080 <sup>f</sup>	335.3°
		·	М	obile Laboraton	1		Standard	Laboratory	
1	1	Direct-Push	2	2			2		
2	2A	Direct-Push	2	5			2		
	2B	Direct-Push	2	2			2		
3	3A-1	LimAcc. Rig	2	2			2	2	
	3A-2	LimAcc. Rig	2	2			2	2	
	3B-2	Direct-Push	2	2			2	2	
	3C-1	Direct-Push	2	2			2	2	
	3C-2	Direct-Push	2	2			2	2	
	3D-1	LimAcc. Rig	2	2			2	2	
	3D-2	Direct-Push	2	2			2	2	
	3E-1	Direct-Push	2	2			2	2	
	3E-2	Direct-Push	2	2			2	2	
	3F-1	LimAcc. Rig	2	2			2	2	
	3F-2	LimAcc. Rig	2	2			2	.2	
	3F-3	LimAcc. Rig	2	2			2	. 2	
	3G	Direct-Push	2	2			2	2	<u> </u>
	3Н	Direct-Push	2	2			2	2	
	3I-1	LimAcc. Rig	2			2	2	2	
	31-2	LimAcc. Rig	2			2	2	2	
	3J-1	B-53 Rig	2	2			2	2	
	3J-2	B-53 Rig	2			2	2	2	
	3K-1	B-53 Rig	2	2		2	2	2	
	3K-2	B-53 Rig	4	4			2	2	
	3L-1	LimAcc. Rig	2			2	2	2	
	3L-2	LimAcc. Rig	2			2	2	2	
	3M-1	B-53 Rig	2	2			2	2	
	3M-2	B-53 Rig	2	2			2	2	
	3M-3	B-53 Rig	2	2			2	2	<u> </u>

Table Key

Lim.-Acc. Rig - Limited Access Rig

Table Notes:

a) Table presents the number of samples analyzed for a given method from each sampling site. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1996.

- b) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Method 418.1
- c) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- d) Total Petroleum Hydrocarbons as Diesel (TPH-d) analyzed per EPA Method 8015-M.
- e) Metals analyzed per EPA Method 6010.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080.
- g) Cyanide analyzed per EPA Method 335.5.

## TABLE 1 SAMPLING AND ANALYTICAL PROGRAM<sup>a</sup>

Douglas Aircraft Company C-6 Facility Torrance, California May, 1996 K/J 954019.01

Sample	Boring	Collection				Analysis			
Site	Number	Method	418.1 <sup>b</sup>	8010/8020°	8015-M⁴	8010/8020	6010°	8080 <sup>f</sup>	335.3°
5.1.5			М	obile Laborator	/		Standard	Laboratory	
3	3N-1	B-53 Rig	2			2	2	2	
	3N-2	B-53 Rig	2	2			2	2	
	30-1	B-53 Rig	4	4			2	2 .	
	30-2	B-53 Rig	4	4			2	2	
4	4	LimAcc. Rig		2			2	2	
5	5A	Direct-Push	1						
	5B	Direct-Push	1						
6	6	Direct-Push		2			2	2	
7	7A	Direct-Push		2			2		
	7B	Hand Auger		0		1	0		
	7C	Direct-Push		2			2		
	7D	Direct-Push		3			3		
8	8	Direct-Push	2	2			2		
9	9	Hand Auger	2	2			·		
10	10A	Hand Auger					2		·
	10B	Hand Auger					2	<del>  </del>	
11	11A	Direct-Push	2	1				İ	
	11B	Direct-Push	2						
12	12A	Direct-Push			3				
	128	Direct-Push			5				
	12C	Direct-Push	2	5					
13	13A	Direct-Push	2			· I			
·	13B	Direct-Push	5						
14	14	Direct-Push	2	2			2		
15	15	Direct-Push	2	5			2		
16	16	Direct-Push		2					2
17	17	Direct-Push	5	5			2		<u> </u>
Totals	56		98	95	8	14	87	62	2

#### Table Key

Lim.-Acc. Rig - Limited Access Rig

Table Notes:

a) Table presents the number of samples analyzed for a given method from each sampling site A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1996.

- b) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Method 418.1
- c) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- d) Total Petroleum Hydrocarbons as Diesel (TPH-d) analyzed per EPA Method 8015-M.
- e) Metals analyzed per EPA Method 6010
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080.
- g) Cyanide analyzed per EPA Method 335.5.

## TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS\*

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>e</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)°	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µġ/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA ( (µg/Kg) (	TCE (µg/Kg)	PCB <sup>f</sup> Arcolor 1248 (µg/Kg)
Method De	tection Limit		10	10	5	6	5	5	5	5	5	5	5	5	5	5	33
Bldg. 29	15-5	5							21.0				69.9		5.4	21.2	
	15-10	10							23.7				56.8	7.4	24.5	17.8	
	15-15	15															
	15-20	20							18.4	,			101.8		14.8	23.7	
	15-25	25							60.0		18.6		202.0	13.5	11.5	200.0	
Bldg. 36	17-5	5	1														
<b>U</b> . <b>U</b> .	17-10	10	179								30				<u> </u>	95	
	17-10 dup	10	168														
	17-15	15				e <b>ži</b> lik				•		<u> </u>				7.1	<u>'</u>
-	17-20	20														10.3	
	17-25	25									162	19.2				272	
Bldg. 37	2A-5	5							7.5						<u> </u>		
<b></b>	2A-10	10										<u> </u>		<u> </u>		5.0	
	2A-15	15														8.1	
	2A-20	20													<u> </u>		
	2A-25	25														5.4	

Table Key:

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram µg/Kg - micrograms per kilogram

DCA - Dichloroethane

DCE - Dichloroethene

TCA - Trichloroethene
TCE - Trichloroethene

PCE - Tetrachioroethene

PCB - Polychlorinated biphenyls

#### Table Notes:

- a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.
- A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1998.

- b) Below Ground Surface
- c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
- d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
- e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
- g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building,

consistent with other samples.

### TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS\*

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>c</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)*	Ethyl Benzene (µg/Kg)	Toluene (μg/Kg)	Xylenes (μg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>f</sup> Aroclor 1248 (µg/Kg)
Method D	etection Limit		10	10	5	5	5	5	5	. 5	5	5	5	5	5	5	33
Bldg. 37	3F-2-5	118			5.0	58.0	18.6	15.0									
	3F-2-10	16 <sup>8</sup>															
	3G-5	5	5,700														
	3G-10	10															
	3J-2-10	10	23														9,800
: :	3J-2-15	15															130
	3K-2-10	10									8.0					97.0	
	3K-2-10 dup	10															
	3K-2-15	15														15.3	
	3K-2-20	20												<u> </u>		8.4	
	3K-2-25	25														38.2	
	3N-1-10	10	157								<u> </u>		<u> </u>	<u> </u>			
	3N-1-10 dup	10	145														
F	3N-1-15	15							<u></u>		<u> </u>						
	3N-2-10	10	134										<u> </u>				
1	3N-2-10 dup	10	121														
	3N-2-15	15															<u> </u>

Table Key;

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram μg/Kg - micrograms per kilogram

DCA - Dichloroethane
DCE - Dichloroethane

\_\_\_\_\_

TCA - Trichloroethane

TCE - Trichloroethene

PCE - Tetrachloroethene

PCB - Polychlorinated biphenyls

#### Table Notes

- a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.
- A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1996.

- b) Below Ground Surface
- c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
- d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
- e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
- g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building,

consistent with other samples.

## TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS\*

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>c</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)*	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA ( (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>f</sup> Aroclor 1248 (µg/Kg)
Method De	tection Limit		10 <sup>-</sup>	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 37	30-1-10	10									5.0					7.2	
[	30-1-15	15															
	30-1-20	20														13.5	
	30-1-25	25														10.0	
	30-2-10	10									51.0					121.0	36
	30-2-15	15									34.6					81.0	
	30-2-20	20									76.6					242.0	
	30-2-25	25									20.7					98.7	
Bldg. 43	12-B-5	5															
	12-B-10	10															
	12-B-15	15		200													
	12-B-20	20															
	12-B-25	25															
	12-C-5	5	40													7.8	
	12-C-10	10	40									ļ				16.2	
	12-C-10 dup	10	40														
	12-C-15	15														69.2	
	12-C-20	20				ľ										24.8	
	12-C-25	25				1											

Table Key:

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram µg/Kg - micrograms per kilogram

DCA - Dichloroethane

DCE - Dichloroethene

TCA - Trichloroethane

TCE - Trichloroethene

PCE - Tetrachloroethene

PCB - Polychlorinated biphenyls

#### Table Notes:

- a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.
- A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1996.

- b) Below Ground Surface
- c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
- d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
- e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
- g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

## TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS<sup>®</sup>

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>c</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)*	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>r</sup> Arocior 1248 (µg/Kg)
Method De	etection Limit		10	10	5	5	5	5	5	5	5	6	5	5	5	5	33
Bldg. 67	7C-5	5									16						
	7C-10	10															
	7D-10	10							8.3						19	1	
	7D-15	15					l								7.9		
	7D-20	20				l	<u> </u>			8.7					18		
	9-5	5						<u> </u>									
	9-10	10													6.4	10.8	

Table Key:

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram

µg/Kg - micrograms per kilogram

DCA - Dichloroethane

DCE - Dichloroethene

TCA - Trichloroethane

TCE - Trichloroethene

PCE - Tetrachioroethene

PCB - Polychlorinated biphenyls

#### Table Notes:

a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.

A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1996.

b) Below Ground Surface

c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.

d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.

e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.

f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroctor 1248 was detected.

g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building,

consistent with other samples.

## TABLE 3 COMPARISON OF SITE SOIL INORGANIC CHEMICAL CONCENTRATIONS WITH COMMON SOIL CONCENTRATIONS AND STATE THRESHOLD LIMIT VALUES

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

TESTED	CONCENTRATION	COMMON RANGE	CCR	CCR
INORGANIC	RANGE	IN SOIL(a)	TTLC(b) Value	STLC(c) Value
CHEMICAL	(mg/Kg)	(ppm)	(mg/Kg)	(mg/L)
ANTIMONY	<1.0	<1 - 2.6 <sup>d</sup>	500	15
ARSENIC	<10 - 17.5	1 - 50	500	5
BARIUM	49.2 - 290	100 - 3,000	10,000	100
BERYLLIUM	<0.50 - 1.2	0.1 - 40	75	0 .75
CADMIUM	<0.20 - 2.5	0.01 - 0.7	100	1.0
TOTAL CHROMIUM	18.0 - 40.7	1 - 1,000	2,500	560
HEXAVALENT CHROMIUM	<0.10 - 1.1	Not available	500	5
COBALT	5.5 - 48.1	1 - 40	8,000	80
COPPER	14.0 - 171	2 - 100	2,500	25
LEAD	3.9 - 19.8	2 - 200	1,000	5
MERCURY	<0.040 - 0.094	<0.01 - 4.6 <sup>d</sup>	20	0.2
MOLYBDENUM	<4.0	<3 - 7 <sup>d</sup>	3,500	350
NICKEL	11.4 - 70.1	5 - 500	2,000	20
SELENIUM	<0.50 - 0.90	0.1 - 2	100	1 1
SILVER	<0.50 - 3.4	0.01 - 5	500	5
THALLIUM	<200	2.4 - 31 <sup>d</sup>	700	7
VANADIUM	24.7 - 75.5	20 - 500	2,400	24
ZINC	45.8 - 184	10 - 300	5,000	250

mg/Kg - milligrams per Kilogram

mg/L - milligrams per Liter

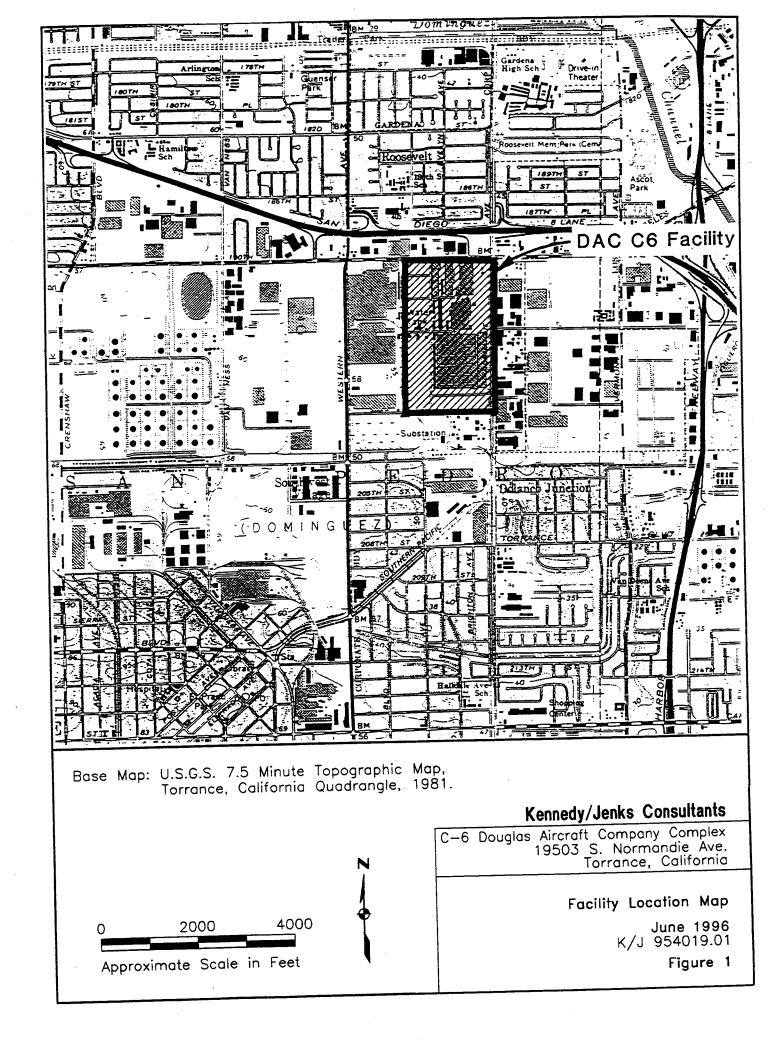
ppm - parts per million

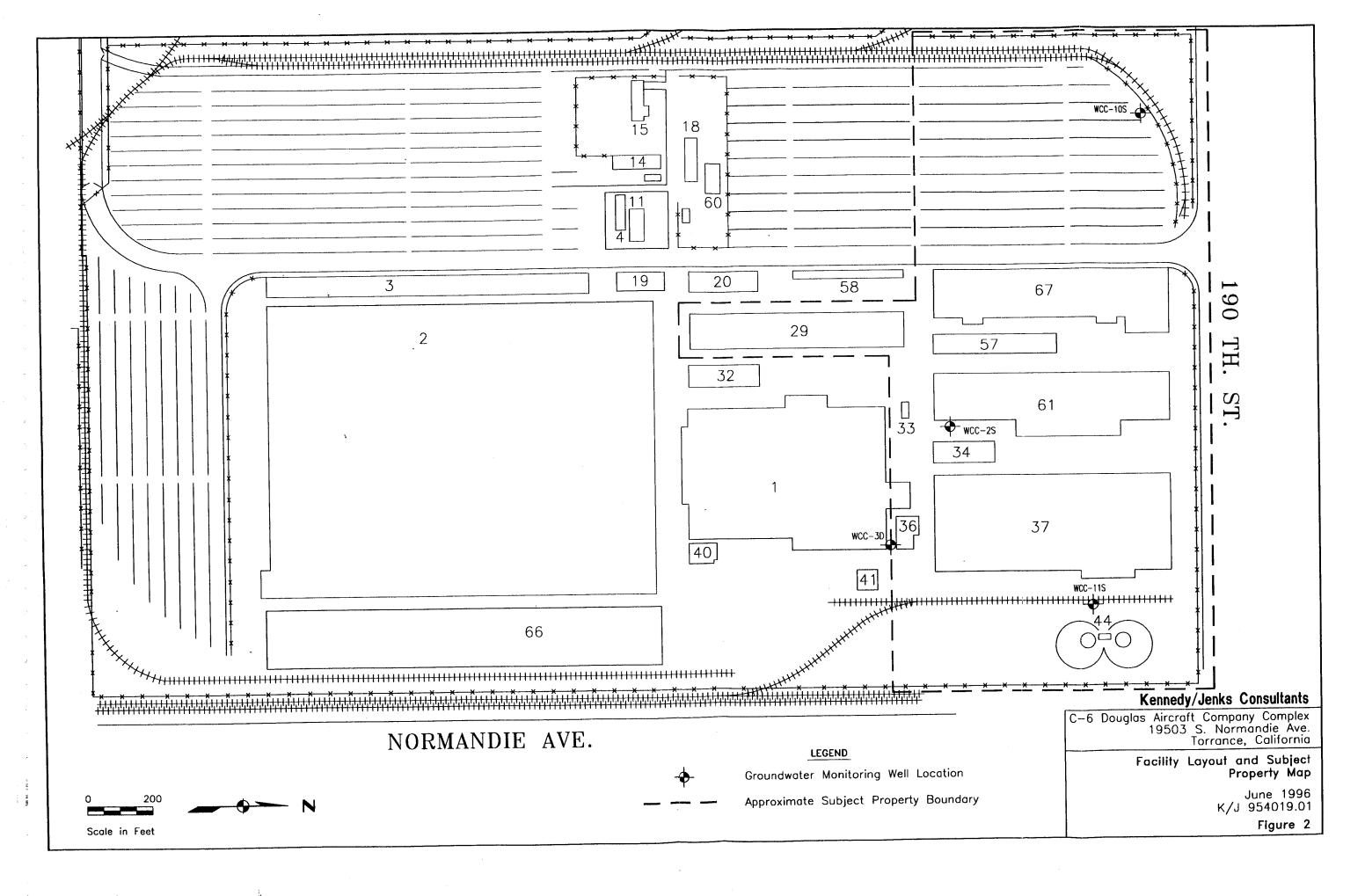
a) Chemical Equilibria in Soils. Willard L. Lindsay, John L. Wiley & Sons, NY 1979.

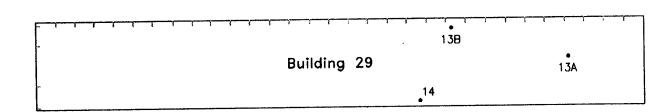
b) CCR, Title 22, Total Threshold Limit Concentration (TTLC) value.

Value set to define a California hazardous waste based on the total concentration.

- c) California Code of Regulations, (CCR), Title 22, Soluble Threshold Limit Concentration (STLC) value.
- Value set to define a California hazardous waste based on leachate concentration.
- d) Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States.
- H.T. Shacklette and J. G. Boerngen, USGS Professional Paper 1270, U.S. Government Printing Office, Washington, 1984.







Sample Site 15

Depth	TRPH		Volat	ile Organic	Compounds	(ug/Kg)	
(ft)	(mg/Kg)	1.1-DCA	1,1-DCE	PCE	1,1,1-TCA	1,1,2-TCA	TCE
5	< 10	21.0	< 5	69.9	< 5	5.4	21.2
10	< 10	23.7	< 5	56.8	7.4	24.5	17.8
15	NA	< 5	< 5	< 5	< 5	< 5	< 5
20	NA.	18.4	< 5	101.8	< 5	14.8	23.7
25	NA NA	60.0	18.6	202.0	13.5	11.5	200.0

- CONCRETE PAD

15

#### Legend:

Phase II approximate boring locations.

TRPH Total Recoverable Petroleum Hydrocarbons

1,1-DCA 1,1- Dichloroethane

1,1-DCE 1,1- Dichloroethene

1,1,1-TCA 1,1,1- Trichloroethane

1,1,2-TCA 1,1,2- Trichloroethane PCE Perchloroethene

PCE Perchloroethene TCE Trichloroethene

<10 Result fell below the given method detection limit

NA Not Analyzed

mg/Kg milligrams per Kilogram
ug/Kg micrograms per Kilogram

---- N

## 0 50 100 200 Approximate Scale: 1" = 100'

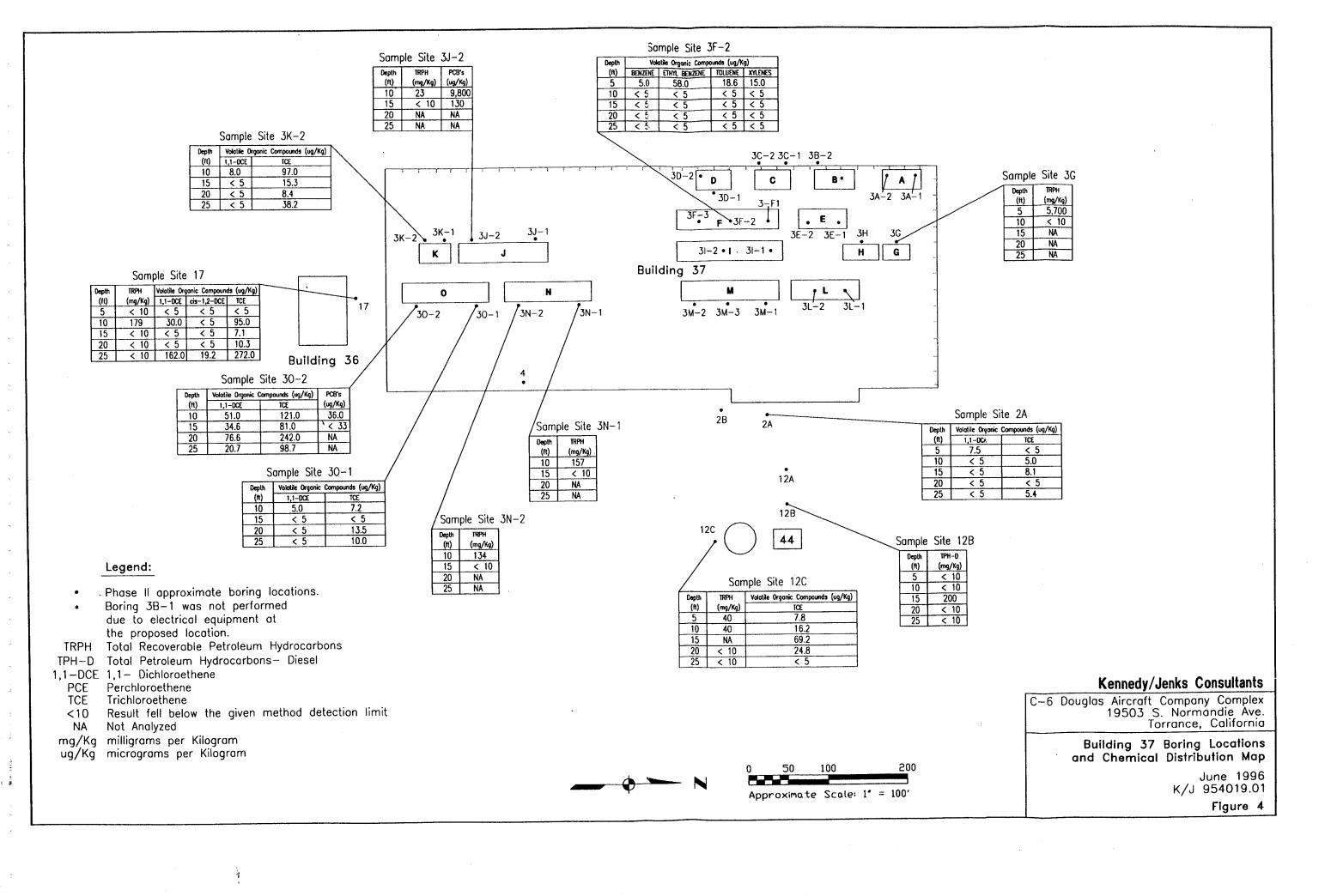
#### Kennedy/Jenks Consultants

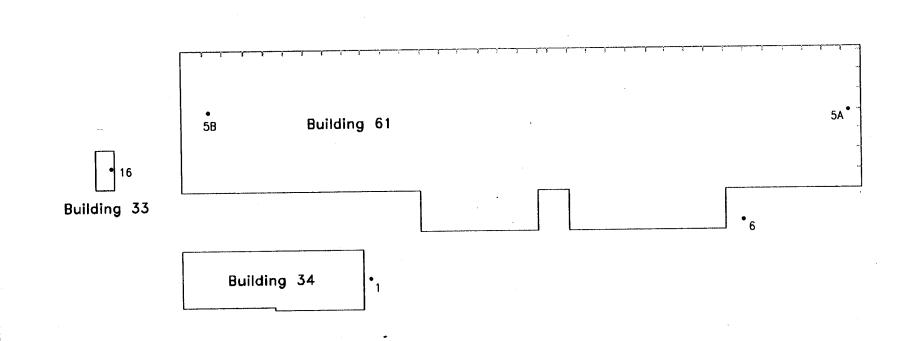
C-6 Douglas Aircraft Company Complex 19503 S. Normandie Ave. Torrance, California

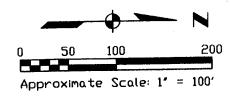
Building 29 Boring Locations and Chemical Distribution Map

June 1996 K/J 954019.01

Figure 3







#### Legend:

Phase II approximate boring locations.

Note: No chemical detections were reported for the above shown sample sites.

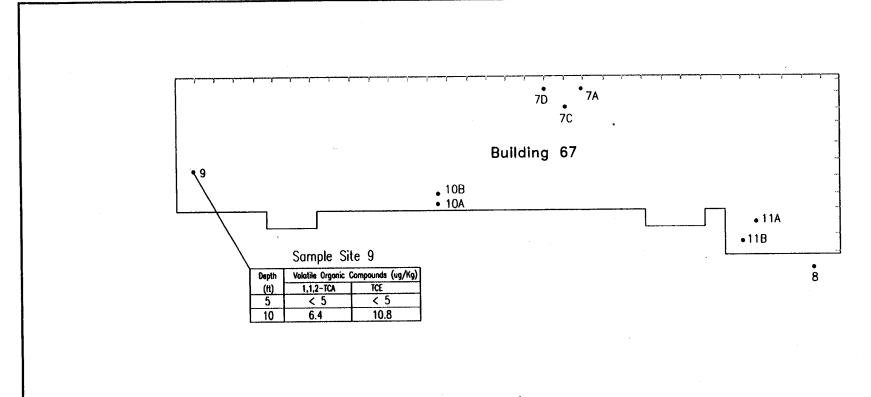
### Kennedy/Jenks Consultants

C-6 Douglas Aircraft Company Complex 19503 S. Normandie Ave. Torrance, California

Building 61 Boring Locations and Chemical Distribution Map

June 1996 K/J 954019.01

Figure 5



#### Legend:

Phase II approximate boring locations.

1,1,2-TCA 1,1,2- Trichloroethane

TCE Trichloroethene

BOE-C6-0219355

< 5 Result fell below the given method detection limit

ug/Kg micrograms per Kilogram

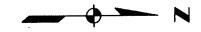
#### Kennedy/Jenks Consultants

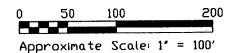
C-6 Douglas Aircraft Company Complex 19503 S. Normandie Ave. Torrance, California

Building 67 Boring Locations and Chemical Distribution Map

June 1996 K/J 954019.01

Figure 6





## Appendix A

BORII	NG LC	CATION	45.4		24						Boring Name —	_1	
	ING	COMPAN	Y	ung	34				DRILLER	ete	Project Name	DAC	C-6 Parcel A Phase II
DRILI	ING	METHOL	(S)					<u></u>	DRILL BIT	(S) SIZE	Project Number -	95401	
DEPT	OT H	eopro Water	be						2	n.	ELEVATION -		TOTAL DEPTH
	r	ot End	ounte	red					······································		DATE STARTED		26 ft.  DATE COMPLETED
LOGO		. Knig	nt								4/1/96		4/1/96
Driven	llected 4X	Head 13 Space Reading (mg/L)	Depth (feet)		Litho	iogy		USCS Log	Mannell Color	soi	IL DESCRIPTION AND	DRILLING	REMARKS
ă .	3	* <i>5</i> ***		祄	₩.	M	ŶĤ			Concrete, 3 inches			
- - -	X		-										
- -		6.8	5					ML		Clayey SILT: very dark brov	wn, some very fine sand,	moist, some	organic material
	8	6.0	10-					ML		brown, increasing sand conf		<del></del> -	
- -		7.2	15-					ML	~	Sandy SILT: brown, very fu	ne sand, moist		
		7.1	20- - -					ML		some clay			
		7.0	25-					ML		decreasing clay			
			30-							Boring Completed at 26 fo	eet.		
			35.										-
			40	1						-			

DU	ΓIJ	πŔ	g Lo	g_									enks Consi	
BORI	NG I	LOC Fo	ATION	toild b	ne 37	 7. adi	acen	t to clari	fiers		Boring Name —	2A		
DRIL	LIN	300	OMPAN	Y					DRILLER	ete	Project Name	DAC	C-6 Parcel A	Phase II
DRIL	LIN	3 M	aness ETHOD	(S)					DRILL BIT	(S) SIZE	_	95401		
		Ge	eoprob ATER	<u>e</u>					2	in.	Project Number ELEVATION		TOTAL DEPTH	
		No	t Enc	ounte	red						DATE STARTED		DATE COMPLETED	26 ft.
LOG	GED	BY J.	Knigh	t							4/1/96			4/1/96
Π.	Recovered	1 ES		Depth (feet)	L	itholog	y	USCS Log	Manuell Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS	
百	<u> </u>	5 =	\$2€				1111			Asphalt, 2"				
-		XXXX	8.0	5-				ML		Sandy SILT: black to dark b	prown, fine sand, with cla	ıy, oily odor	, moist	
-		8888	8.1	10-				ML		dark brown to black, weake	er odor			-
-		XXX	7.8	15-				ML		brown, moist, no odor			·	
		***	7.9	20-				ML					·	-
*****	<b>*</b>	***	7.8	25-				ML		some medium sand				
-				-										-
				30-						Boring Completed at 26 f	icet.			- - -
				35·						-				- -
														- - -
				40										-

BORING L	OCATH	N f Bnild!	nø 3	7. ad	iacen	t to clari	iers		Boring Name —	_2B		
DRILLING	COMP	ANY					Pe	te	Project Name	DAC	C-6 Parcel A	Phase II
DRILLING	METH Geop	OD (S)	*				DRILL BIT (	(S) SIZE	Project Number -	95401	9.01	
DEPTH TO	WATE	R ncounte							ELEVATION		TOTAL DEPTH	26 ft.
LOGGED	BY		Icu					-	DATE STARTED 4/2/96		DATE COMPLETED	4/2/96
SAMP		Depth (Cect)	1	Litholo	47	USCS Log	Muneti Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS	
Recov.	N S	Ē		3131	3111			Asphalt, 2"				
	NXXX	5-				ML		Clayey SILT: dark brown to	o black, some very fine s	and, moist		-
		10				ML		brown, slightly moist				•
	XX	15				ML		light brown, moist, decreas	ing clay			
		20				ML						-
	<b>*</b>	25	-  -  -			ML		very fine to fine sand			······································	•
		36						Boring Completed at 26	feet.			

Kennedy/Jenks Consultants

**Boring Log** BORING LOCATION 3A-1 **Boring Name** Building 37, Pit A DRILLER DAC C-6 Parcel A Phase II DRILLING COMPANY **Project Name** Jeff Gregg Drilling DRILL BIT (S) SIZE 954019.01 DRILLING METHOD (S) **Project Number** SIMCO 5000 6 in. TOTAL DEPTH DEPTH TO WATER 26.5 ft. Not Encountered DATE COMPLETED DATE STARTED 3/26/96 3/26/96 K. Knight SOIL DESCRIPTION AND DRILLING REMARKS Mumell Color Concrete, 6 inches Background OVM: 0.0 ppm Sandy SILT: light brown, fine, soft, dry to slightly moist Bottom of Machine Pit A SILT: brown, with clay and sand, soft, slightly moist Boring Completed at 26.5 feet. 30 35

BORING	Ю	CATION	- 37 E	) {	A								Boring Name —	3A-2	
DRILLIN	IG C	uildin OMPAN	Υ		Α.						DRILLER	eff	Project Name	DAC	C-6 Parcel A Phase II
DRILLIN	IG N	regg I	) (S)				_				DRILL BIT	(S) SIZE in.	1 -	95401	9.01
DEPTH T	OV	IMCO VATER				_							Project Number -		TOTAL DEPTH 26.5 ft.
LOGGEI	B	ot En		re	Œ					<u> </u>		_	DATE STARTED 3/26/96		DATE COMPLETED 3/26/96
SAV	IFI.E	Knig									34			DDII I DIC	
Driven	ollected	Space Reading (mg/L.)	Depth (feet)		L	.itho	dog	7		USCS Log	Muneil Color		OIL DESCRIPTION ANI	DKILLING	NI-WARRO
이 골	۲	<u>= 725</u>		X	X	X	X	X	X			Concrete, 6 inches Background OVM: 0.0 ppr	n		
												ļ			-
					Ш		II					-			
			-									-			-
XX			5-					$\ $		ML		Sandy SILT: light to media	ım brown, fine, soft, dry	to slightly mo	pist
	Ø		-	H	╫	╫	╫	╫	╢	ļ		Bottom of Machine Pit A			
	$\neg$		-									<u> </u>			]
			-												
			-												-
	, ,		10-							ML		1			-
	88											}			-
			-									-			-
-				$\ $	Ш							ŀ	•		
XXXXX			15	$\ $						ML					
	燹			$\ $	Ш							•			
				╢	Ш										
-			·	11	Ш						_				
				Ħ	$\parallel$	Ш	П	Ш	$\parallel$	<b> </b>	T				_
***	<b>XX</b>		20	11						ML		Clayey SILT: brown, sligh	tly moist, firm		•
<b>***</b>	***			]								1			-
				$\parallel$	II							-			-
-	•			Щ	Щ	Щ.	Щ	Щ	Щ	₩	<del> </del>				
<b>***</b>			25	H	:[	:[		:		SM		Silty SAND: light brown,	fine, loose, dry to slightl	y moist	1
	▩		-	₽	<u>:</u>	<u>:</u> ]	<u>:</u> ]	:]:	1.	4	<del> </del>	<u> </u>			
				1						1					-
				1							1				-
			30									Positive Committed at 36	5 fact		-
			30	1								Boring Completed at 26	.3 leer		•
				1								1			-
				-								+			-
				1								ł			-
			35	H								•			
				$\mathbf{f}$								<b>†</b>			-
				1											-
				1											-
			,,	Ţ											•
			40	]								-			-
				4								-			

	GIO	CATION			=	-	_	-		•		Boring Name 3B-2
DRILLI	NG (	outside	Build	in	3'	7. 1	<u>dj</u>	ace	nt te	o pit B	DRILLER	DACCO ( Devol A Disco II
	N	Maness METHOL	_				_	-			Per DRILL BIT (	05175
	(	eopro	be_					_			2 i	in. Project Number 954019.01  ELEVATION TOTAL DEPTH
	TO I	WATER Jot Enc		rec	L							34 ft.
LOGGE	DB	Y . Knig										DATE STARTED DATE COMPLETED 4/2/96
SA	MPL		Depth (feet)		L	<b>d</b> ol	<b>087</b>		Ų	ISCS Log	Mansell Color	SOIL DESCRIPTION AND DRILLING REMARKS
Z 2	ರಿ	732E	_		П		Ť	Ш				Asphalt, 2"
.			-		Ш	Ш	$\ $	Ш	ı		•	
-			-						1		-	
-			-		II	Ш		Ш		İ	Ī	
-			-		II						İ	
-			5		ll	Ш	П	Ш	м	և	1	Clayey SILT: very dark gray brown, some very fine sand, slightly moist, trace of gravel
:			-	憪	11	H	11	Ш	-			Bottom of Machine Pit B
-					I			Ш				
1				Ш	II			Ш	Ш	1		
			-		$\ $			II		ł		
-			10		ML br							brown, decreasing clay
1				111	$\ $			ll				
					II			II	Ш	İ		_
			·	111						1		
.									Ш			_
			15	111		II		$\ $	Ш			
			<u> </u>	Ш	Щ	╫	Ш	╫	₩	- — 🕂		
	\$ \$\$\$		ļ '	111		I	Ш	$\parallel$	м	(L		Sandy SILT: brown, very fine sand, slightly moist
	<b>XX</b>					$\ $		II	Ш	Ì		_
	٦					II	Ш	II				_
			20	$\ $		$\ $	Ш			:		_
				$\ $	Ш		Ш		Ш	1		<u></u>
***				]	Ш		Ш		М	AL		pods of gray clay
	<b>XX</b>	1		brack  brack		II			Ш			
			25									_
			43	$\parallel$								· ·
				$\parallel$	$\  \ $		Ш	$\  \ $				-
	<b>XX</b>			$\parallel$				Ш		AIL		increasing clay content
		1		$\parallel$								<u> </u>
			30	$\parallel$	$\  \ $						I	·
			"	$\parallel$								·
				$\ $								<u> </u>
	<b>8</b> 8	X		$\parallel$	Ш					VIL		decreasing clay
	XX.	4	↓_	Щ	Ш	Ш		Ш	Щ			
			35	,								}
				1								Boring Completed at 34 feet.
			1	1								Dorme Companies and a sour
				-								<b>}</b>
				-								}
			40	H								<u>}</u>
				1								<u> </u>
			1	1								-

		ig L							
BORU	NG L	OCATION	Duild	ling 37. adjacen	t to nit C			Boring Name —	3C-1
DRILI	ING	COMPAN	ſΥ			DRILLER	4-	Project Name	DAC C-6 Parcel A Phase II
ו זו פרו	ING	Maness METHOL	0(8)			Pe DRILL BIT (	S) SIZE	-	954019.01
	(	Geopro	be			2 i		Project Number	TOTAL DEPTH
DEPT	нто	WATER Not En	-cornte	arad					36 ft.
LOGG	ED E	BY						DATE STARTED 4/2/96	DATE COMPLETED 4/2/96
	AMPI	J. Knig	ht	1		т			
		1 1	Depth (feet)	Lithology	USCS Log	Munnell Color	SO	L DESCRIPTION AND	DRILLING REMARKS
Driven	Collec	Head Space Heading (mg/l.)					1 1 0		
	T			HIHIHIH.		1	Asphalt, 2"		
	1		-						
	ļ		-						
Ì			-			Ī	•		
H	1		5-				•		
$\mathbf{F}$			-		} <del> </del> -		Bottom of Machine Pit C		
-			-			•	•		
-			-				-		
22	8			HIHIHIA			-		
	燚		10-		CL		Silty CLAY: brown, trace of	f very fine sand, slightly i	moist
<b>***</b>	8	9	] <u> </u>					,	
							-		
							-		
			]				<b></b>		
***	<b>X</b>	,							
	燚	9	15		ML		Sandy SILT: brown, very fi	ne to fine sand, slightly n	noist
	٦		1	7111111111111111			_	•	
	İ			111111111111111111111111111111111111111			-		
			•	-			<b>-</b> .		
XXX	×						•		
	▓	8	20	-	ML		-		
	8	1					-		
				4111111111111111					
				411111111111111111111111111111111111111			-		
	75			ЩЩЩ	┡╌┼				
	<b>XX</b>	8	25				Sility CI AV- mattlad dook a	nd light brown, slightly r	moist, trace of very fine sand
<b>**</b>	<b>₩</b>	24		IIIIIIIII	CL		- SHLY CLAIL MOUNTED GALL		· · · · · · · · · · · · · · · · · · ·
							_		
							_		
<b>***</b>	፟	al al							
	▓	<b>\$</b>	30	7]]]]]]]]]]]	ML		Clayey SILT: brown, trace	of very fine sand moist	•
	~			1111111111111111	ML			, <del></del> <del></del> , <del></del>	·
				<b>                                     </b>					
				111111111111111111111111111111111111111	1		<u> </u>		·
**	<b>XX</b>			<del>             </del>	╫╌╌┼		<b></b>		
	▓		35	;{	ML		Sandy SILT: brown, very f	ine sand, some clay, sligh	ntly moist
	88	1	+	$\mu$	┨				
		1		4			<b>}</b>		
				4					
							Boring Completed at 36 f	eet.	
			40	Ч			}		
			"				-		
				1	1		<u> </u>		

ORING L	Ocation Outside Building 37, adjacent to pit C													Boring Name 3C-2		
RILLING	CON	MPAN?	, Dana	ΗLE	<u>, ec</u>	• =	<u>u 1</u> e			oo pie v	DRILI	ER Pet		Project Name	DAC	C-6 Parcel A Phase II
RILLING	MET	ness THOD	(S)								DRILL	BIT (S	SIZE	i -	95401	9.01
EPTH TO	WA	prob TER				_	_	_						Project Number		TOTAL DEPTH  36 ft.
OGGED	3Y		ounte	red		_			_				_	DATE STARTED 4/3/96		DATE COMPLETED 4/3/96
SAMPL		Cnigh			_	_			Τ			$\Box$			DD# 1 D10	
tven scovered liberted	7 4	Reading (mg/L)	(feet)		Lif	holo	•		Ì	USCS Log	Munsell Color		SO	IL DESCRIPTION AND	DRILLING	REMARKS
5 2 3	국중	25		П	П	П	П	П	t				Asphalt, 2"			_
		ı	]													-
												-				_
.			4									- }				-
.			5-	Ш	Ш	$\ $	Ш					ŀ				1
.	1		+	╫	╫	╫	H	╫	∦⋅			·	Bottom of Machine Pit C			
.			1			II	Ш					ł				
			1			$\ $	Ш					[				
	8	l	10-										Sandy SILT: brown, very fi	and slightly m	noiet	•
	\$ 5	5.6	14				Ш		ľ	ML		-	Sandy SILI: brown, very in	ne to the sale, signey in	,OBt	-
.						II	Ш					-				-
.			-									ŀ				
<b></b>			-									f	•			
<b>*****</b>	8 6	6.2	15-				l		1	ML						
			]													·
												-		-		
******			_	Ψ.	Щ	Щ	4	Щ	$\parallel$			·				
	8	6.3	20-	:	i:		4	1	∦.	SM		ł	Silty SAND: brown, very f	ine to fine, slightly moist		. ]
XXXX			-				:1	1				ŀ				
			-				ŀ	:[:					•			
			_					1	1			[				
	8		25-	$\prod$	$\prod$					3 <i>4</i> T		ŀ	Sandy SILT: brown, very f	ine to fine sand, slightly r	noist	_
	٩ '	6.1		$\ \ $				III		ML		ŀ	Sandy Sills, blown, very 1	<b>me to 12.0</b> 52.1., 51.5, 5		-
-	İ		-	$\  \ $												<del>-</del>
			-									ł				
	X		-	Ш	$\parallel$	Ш		$\parallel$	$\ $		† <del></del>	·				-
	8	6.0	30-							ML			Clayey SILT: dark brown,	slightly moist, some very	fine sand	-
	١			$\ $									-			-
-				╢				II					-			-
****				╫	#	$\parallel$	$\mathbb{H}$	#	₩		<del> </del>	-				
	×	6.3	35·	╢						ML			Sandy SILT: brown, very	fine to fine sand, slightly	moist	
	T			ľ	ш	-1	للد		"							•
				]									-			•
									١				Boring Completed at 36	feet.		-
			40	1					١				•			•
-				1									-			
				1												

		g L					Realitedy/obline Constitution	7
BORIN	iG LC	CATION	27 -	Alcount to rift T	`		Boring Name 3D-1	-1
DRILL	ING	COMPAN	Y	djacent to pit I		DRILLER	DACC 6 Parcel A Phase II	
	ľ	Maness METHOD				DRILL BIT (	CO STYE	-
DRILL	ING (	METHOD Georgi	(S) be			2 i	Project Number	4
DEPTI	TO	Geoprol Water					ELEVATION TOTAL DEPTH 34 ft.	
LOGG	FDB	Not Enc	ounte	red			DATE STARTED DATE COMPLETED	
		J. Knigt	ıt				4/3/96 4/3/96	-1
	MPL.		Depth	V ish alama	USCS Log	Munell Color	SOIL DESCRIPTION AND DRILLING REMARKS	ı
45 A	Secto	Head Spare (mg/L)	Depth (feet)	Lithology	Log	Color		╝
E 2	3	I WYE		<u>አለስለስለስ</u>			Concrete, 4"	
┡╽			-					1
-			_				<u>-</u>	1
-			-					1
			_				-	1
H			_م					4
			5-					[
			-	111111111111111111111111111111111111111	[]		Bottom of Machine Pit D	1
			-		l i			
┡╢		1	-				<u> </u>	1
-			-				<u> </u>	1
			10-				}	1
							-	-
			_					4
<b>XXX</b>	<u>z</u>		-					1
	▓	5.2	-		ML		Sandy SILT: brown, very fine sand, trace of clay, slightly moist	
***	8		-	<del> </del>				1
- │			15	411111111111111		(		1
			_					1
		1					· ·	1
***	쬢						light brown	-
	燹	6.0		11111111111111	ML		ngnt otown	4
	2		•	111111111111				1
▐╴│			20	111111111111			,	
▐╴┆							<del>}</del>	1
				4111111111111			<b>}</b>	1
	XX	6.3			Мт.		some clay, moist	1
	8	9 0.3					ļ "	-
	٦							4
			25	]				1
			'	†				J
5000	×		'	-	ML		trace of clay	
	▓	6.1		-	1		<b>†</b>	1
	<b>XX</b>	×		41111111111111			<b>}</b>	1
			30				}	4
			"				<u>.</u>	-
				7	1			4
<b>XX</b>	×			111111111111111111111111111111111111111				1
	₩	6.4		<u> </u>	ML		increasing clay	
	XX	1-		+	╂			
			35	; <del>4</del>			<b>}</b>	1
				1			1	1
		Ì		]				-
				1			Boring Completed at 34 feet.	4
				1				
				1		İ		-
			40	H			<u> </u>	1
				4			<b>+</b>	1
				1			ļ	
	_ i_	1	.l	1		<u> </u>		

BORING LO	CATION			`							Boring Name	3D-2			
DRILLING C	wildin COMPAN	ſΥ							DRILLER	er .	Project Name	DAC	C-6 Parcel A	Phase II	
DRILLING N		(S)	<b>L</b>					·	DRILL BIT	(S) SIZE	Project Number	95401			
S DEPTH TO	IMCO WATER	5000	•						6	in.	ELEVATION		TOTAL DEPTH	26.5 ft.	
N LOGGED BY	ot En	ounte	red								DATE STARTED		DATE COMPLETED		
K SAMPLE	. Knig	ht		_			7	- T		-	3/26/96		<u></u>	3/26/96	
2 2		Depth (foot)		Lin	valogy	,		USCS Log	Mannelli Color	so	SOIL DESCRIPTION AND DRILLING REMARKS				
Collec	H S S E		Ż.	<u> </u>	<b>₹</b>	<u>Σ</u>	ᅯ			Concrete, 6 inches					
-		-	$\prod$			$\prod$	$\prod$			Background OVM: 0.0 ppn	n			1	
-		-								-					
-		-								• •	•				
-														4	
		5	Ш	Щ	Щ	Ш	$\parallel \parallel$	ML		Sandy SILT: dark brown, w	rith minor clay, firm, sligh	uy moist			
		]								Bottom of Machine Pit D					
-		-	Щ	Щ	$\prod$	$\coprod$	╢	<b> </b>							
20000		10-						ML		SILT: brown, soft, dry to sl	ightly moist			1	
		-		$\ \ $	$\  \ $					-				-	
-		-				$\ \ $				-			-	1	
-		-								<u> </u>				]	
		-			$\ \ $									-	
<b></b>		15-	$\ $					ML							
						$\ \ $				_				-	
		] .								-					
			Щ	Щ	Щ	Щ	Щ	L	<b>L</b> – – –	L					
		20-						CL		Silty CLAY: dark brown, f	irm, moist			-	
		-									•				
		.								<u> </u>				4	
	}	.												]	
	-	-	$\ $	뛔		$\mathbf{f}$		<b>-</b> -							
<b></b>		25			$\ \ $			ML		SILT: light brown, with mi	inor sand, soft, dry to sligh	ntly moist			
	<u> </u>	╁一	Ш	Ш	Ш	Ш	Щ	<b>-</b>						-	
									1	-					
										-				-	
		30								Boring Completed at 26.	5 feet.			-	
		"	-							Portrie Combience as acc	<del></del>			-	
			$\left\{ \right.$							}		*		-	
-			1											1	
			1							•					
		35	1					ĺ							
			1											4	
			]							ļ.					
														-	
		40								-				_	
		"	1					1		-				_	
-			1							-				-	

		g		_	=		_	_			AT 4
BORI	NG L	CATION	i - 37 e	die	e e	ıt ta	n ni	t E			Boring Name 3E-1
DRIL	JNG	Buildin COMPA	1Y	413		44			***	DRILLER	DACC-6 Parcel A Phase II
	]	Maness								DRILL BIT (	(S SIZE
DRILI	LING	метноі <b>Geopr</b> o	)(S) he							2 i	Project Number
DEPT	н то	WATER									ELEVATION TOTAL DEPTH 26 ft.
	1	Not En	counte	rec	<u> </u>					<del></del>	DATE STARTED DATE COMPLETED
LOGG	EDE	y J. Knig	hŧ								4/3/96 4/3/96
S	AMPI.	ES						T			
E .			Depth (feet)		Lie	aclog	y		USCS Log	Mannell Color	SOIL DESCRIPTION AND DRILLING REMARKS
Driven	3	Hoad Space Reading (mg/l.)						4			Course All
				ĤΫ́	ዠ	îľ	M	fil.	1		Concrete, 4"
			1 1	Ш	Ш	Ш	Ш	Ш			
H		ļ	-	Ш	Ш	Ш	Ш	Ш	1	ļ	
$\vdash$			-	Ш	Ш	Ш	Ш	Ш	İ		
	╛			Ш	$\coprod$	Ш	444	₩			Арттохітаte Bottom of Machine Pit E
▓	8		ا ا	Ш	Ш	Ш	Ш	Ш	1		
	❈	6.2	רכ	Ш	Ш	Ш	Ш	1	ML		Clayey SILT: dark brown, trace of very fine sand, dry
***	24		1	Ш	Ш	Ш	Ш	Ш			
-			4	Ш	Ш	Ш	Ш	Ш	j		1
			]	Ш	$\ \ $		$\ \ $	$\ $			ļ.
				Ш		Ш		Ш			<u> </u>
	3		1	Ш		Ш	Ш	$\ $			_
⋘		6.5	10-	Ш		Ш	Ш		ML		brown, slightly moist
***	<u> </u>	1		Ш	Ш	Ш	Ш	Ш			
	1		l		Ш	Ш					
	1	1	-		Ш	Ш	Ш	Ш	- 1		
-		1	-	$\  \ $	Ш	Ш		Ш	1		
			١.	Ш	Ш	Ш	Ш	Ш	.		ļ ·
***	8.		۱		Ш	Ш	Ш	Ш	,		
***	ඎ	7.0	15	Ш	Ш	Ш		Ш	ML		increasing sand content
***	×		-	III		Ш	Ш		·		<u> </u>
- 1			-	Ш		Ш	Ш				- 1
			١.	Ш	III	Ш	Ш				ļ.
	1			Ш	Ш		Ш		1		
<b>***</b>	쩛	]	1	111	Ш	Ш		Ш			dark brown, trace of sand
	×	6.9	20-	Ш		Ш		Ш	ML		dark brown, u ace or saint
<b>**</b>	SE CO	ř		Ш	$\ \ $						}
			1	Ш							1
			1	Ш							
<b> </b>			'					$\ \ $			
		1	.	Ш	Щ	Щ	Щ	Ш	┝╺╏		
	፠	6.3	25	Ш							G. J. SUT. become year fine to fine climbthy majet
***	₩	§ 0.3	43	Ш			$\ \ $		ML		Sandy SILT: brown, very fine to fine, slightly moist
<b>***</b>	-	+-	T	٣	للني	للب		쒸			
		1	.	1				l			1
				1							}
		1									
				1				1			Boring Completed at 26 feet.
┡╽			30	1							Toring combines as as seen
			1	4							<u>}</u>
											-
				7					]		
▐╴│	1	1	1	1						*	
			1	4							<u>ት</u>
			35	1							<u> </u>
			33	1							
			1	1							
┠┃				┨							†
				1							<u>-</u>
											-
				1							
┡╽		1	40	Н							
	1		1	1					'		<u>}</u>
									1		
	1	1	1	1					I		

BORIN	LO	CATION	37, a	dio	cent	to n	# F				Boring Name —	3E-2	
DRILLI	NG C	OMPAN (aness	Y	<u>u ja</u>	<u>vene</u>	w p.			DRILLER Pe		Project Name	DAC	C-6 Parcel A Phase II
DRILLI	NG M	ETHOL	(S)						DRILL BIT	S) SIZE	Project Number -	954019	
DEPTH	TO V	eopro	ounte		-					E	LEVATION	l	TOTAL DEPTH  26 ft.
LOGGE	DBY			104						. D	DATE STARTED 4/3/96		DATE COMPLETED 4/3/96
3	MPLE:		Depth (feet)		Lithoi	logy		USCS Log	Mannell Color	SOIL	DESCRIPTION AND	DRILLING	REMARKS
Driven Recove	College	Space Readin (mg/L)		?//	<b>7</b> 77		X			Concrete, 4"			
-   '			_										
-			1										
-										Aproximate Bottom of Mach	III DIE E		
	<b>XX</b>	4.7	_							Sandy SILT: dark brown, ver		ist some clar	
ቖ	<b>884</b>	7.7	3					ML		Sandy SILI: dark brown, ver	y mie sand, sngmy mo	ist, some em	, <u> </u>
.			_				Ш			_			
-			-				Ш						1
XXXX			-							-			1
	▩	5.4	10-				Ш	ML		light brown, dry	ν		]
****			-				Ш			·			
			-				Ш						
				$\  \ $						_	•		-
	×	5.6	15-							light to dark brown, dry			_
⋘	×	••	<b>, ~</b> .	$\parallel \parallel$		Ш		ML		Ingili to dark blowit, ally	-		
-			-	$\ \ $			Ш			<b>-</b> .	•		- -
-			-	$\ \ $						-			
***			-	╢	Ш			мL		light brown, very fine to fine	sand. drv		
	綴	5.1	20-	1	$\parallel \parallel \parallel$			ML		ingui orowin, tery inches			
	וֹ וֹ												-
				$ label{eq:linear_state}  bracket$						-			
			ļ.	$\parallel \parallel$						_			_
		5.1	25	$\  \ $				ML		light brown to gray, trace of	clay, dry		-
ቖ			<del> </del>	Ш	Ш	ШШ	Ш	1					
-			.	-									
				1						†			_
<b> </b>				1						Boring Completed at 26 fe	et.		•
			30										-
										<b> </b>			-
				-						-			-
				-						-			•
<b> </b>			35	4						<b>†</b>			•
				1						<u> </u>			
		İ		1						<u> </u>			
				1									
				1									
			40	]									

Kennedy/Jenks Consultants **Boring Log** 3F-1 **Boring Name** Building 37, Pit F DAC C-6 Parcel A Phase II ING COMPANY **Project Name** Grees Drilling DRILL BIT (S) SIZE 954019.01 DRILLING METHOD (S) Project Number ELEVATION 6 in. **SIMCO 5000** TOTAL DEPTH DEPTH TO WATER 26.5 ft. Not Encountered DATE COMPLETED DATE STARTED 3/26/96 3/26/96 K. Knight SOIL DESCRIPTION AND DRILLING REMARKS Munnell Color Depth (feet) Concrete, 6 inches Background OVM: 0.0 ppm Sandy SILT: brown, fine, soft, slighly moist Bottom of Machine Pit F Silty SAND: light brown, fine, dry to slighly moist SILT: brown, with minor sand, firm, slightly moist ML Silty SAND: light brown, fine, loose, dry to slighly moist SM

Kennedy/Jenks Consultants **Boring Log** 3F-2 **Boring Name** Building 37, Pit F DRILLER DAC C-6 Parcel A Phase II DRILLING COMPANY **Project Name** Gregg Drilling DRILL BIT (S) SIZE 954019.01 DRILLING METHOD (S) **Project Number SIMCO 5000** TOTAL DEPTH DEPTH TO WATER 26.5 ft. Not Encountered DATE COMPLETED DATE STARTED 3/26/96 3/26/96 SOIL DESCRIPTION AND DRILLING REMARKS Depth (feet) Concrete, 6 inches Background OVM: 0.4 ppm Sandy SILT: brown, fine, firm, slightly moist, faint stain and odor at top of 5-foot sample Bottom of Machine Pit F Silty SAND: light brown, fine, loose, dry to slightly moist Silty CLAY: dark brown, firm, slightly moist Silty SAND: light brown, fine, loose, dry to slighly moist Boring Completed at 26.5 feet. 30 35

BORING LOCATION			Boring Name 3F-3
Building 37. Pit F DRILLING COMPANY		DRILLER	DAC Ca6 Parcel A Phase II
Grees Drilling DRILLING METHOD (S)		Jeff DRILL BIT (S	CITE
SIMCO 5000		6 in	L. Project Number JSTOLLOW  ELEVATION TOTAL DEPTH
DEPTH TO WATER  Not Encountered			26.5 ft.  DATE STARTED DATE COMPLETED
LOGGED BY  K. Knight			3/26/96 3/26/96
SAMPLES Depth Lithology	USCS Log	Munacii Color	SOIL DESCRIPTION AND DRILLING REMARKS
Delven Recover Recover Recover Recover Recover Recover Recover Recover			Concrete, 6 inches
.		r	Background OVM: 0.0 ppm
-		<u> </u>	
-		Ī	
-		Ī	
511111111	ML	ľ	Sandy SILT: light to medium brown, fine, firm, slightly moist
<b>****</b>   †			Bottom of Machine Pit F
		[	
			-
10-	ML	[	
15-	ML		dry and loose
		1	·
		ļ	
	ЩЦ ├		
20	CL		Silty CLAY: brown, firm, slightly moist
		<u> </u>	- · · · · · · · · · · · · · · · · · · ·
		1	-
		· — — —	
XXXX 25-	ML	}	Sandy SILT: light to medium brown, fine, firm, slightly moist
		ŀ	
<u> </u>			-
<b> </b>		ŀ	Boring Completed at 26.5 feet.
30-			
<b> </b>			
┡╎╎╎ ┡		İ	
┡╎╎╎			
<b> </b>			
35-			• · · · · · · · · · · · · · · · · · · ·
F			<b>-</b>
┠╎╎┆╴╎┤			- · · · · · · · · · · · · · · · · ·
-     40-			
<u> </u>			

BORING LOCATION  Building 37, adjacent to pit G		Boring Name 3G
DRILLING COMPANY	DRILLER Pe	ete Project Name DAC C-6 Parcel A Phase II
Maness DRILLING METHOD (S)	DRILL BIT (	(S) SIZE Project Number 954019.01
Geoprobe DEPTH TO WATER	<u></u>	ELEVATION TOTAL DEPTH 26 ft.
Not Encountered		DATE STARTED DATE COMPLETED 4/3/96 4/3/96
J. Knight	Manage	SOIL DESCRIPTION AND DRILLING REMARKS
Tipology Doubth Listed Co.	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
		Concrete, 4"
		[
		-
		Approximate Bottom of Machine Pit G
4.2 5-		Clayey SILT: mottled brown and dark brown, moist, low plasticity
		-
-		
		· · · · · · · · · · · · · · · · · · ·
	-	
10-       <sub>ML</sub>		Sandy SILT: brown, very fine to fine sand, slightly moist
		-
		ļ
		-
5.2 15-11111111 <sub>ML</sub>		some clay, dry
		3000 023, 23
-		
-       -		
MIL CONTRACTOR OF THE CONTRACT		no clay, dry, very fine to fine sand, firm
20-		Ito clay, day, vary file to file out of the
-		
5.0 25-		trace of clay, dry
3.0 25 MI		
<u>                                     </u>		
		Boring Completed at 26 feet.
30-		Proving Compress as as soon
35-		
		}
		<b>-</b>
		<b>}</b>
		<u>}</u>
- 40-		
-       <del> </del>   <u>-                                 </u>		

			g Lo								Actinedy/Jenks Consultation				
BOR	ING	LOC Br	ATION silding	37. a	d jace	nt to	pit l	H			Boring Name	3H			
DRI	LLIN	IG CI	OMPAN ancss	Y	-				DRILLER Pe	ete	Project Name	DAC C-6 Parcel A Phase II			
DRI	LLIN	IG M	ETHOD	<b>(S)</b>					DRILL BIT	(S) SIZE	Project Number	954019.01			
DEP	TH T	2	ATER							III.	LEVATION	TOTAL DEPTH 26 ft.			
	CEL	No	ot Enc	ounte	red						DATE STARTED	DATE COMPLETED			
		J.	Knigh	t				T		-	4/3/96	4/3/96			
Driven	DEOVERED NO		Space Reading (mg/L.)	Depth (feet)	Li	ithology		USCS Log	Manuell Color	SOI	L DESCRIPTION ANI	DRILLING REMARKS			
-	3	<u> </u>			m	HH.	m			Concrete, 4"					
				-						-					
Ŀ				-						Approximate Bottom of Pit 1	H				
	▓	▓	5.7	5-				CL		Silty CLAY: dark brown, slightly moist, low plasticity					
				-						_		1			
L				-											
	▓		6.1	10-				ML		Clayey SILT: light brown, di	ry	1			
-				-						-		<u> </u>			
	200			-						<del>-</del> -					
	▓		6.3	15				ML		dry					
F				-											
· ***	XX								·	-					
		<b>※</b>	6.2	20				ML		-					
ŀ															
										-					
***				25				ML		no recovery		-			
ľ										-		1			
ł					1										
F				30	-					Boring Completed at 26 fo	eet.				
ţ					1										
ł					1										
ł				35						<u> </u>					
F	-														
ļ					1							1			
ţ				40	4					<u> </u>					
ŀ					-					-					

BORING LOCATION BORING Name 3I-1												
Duilding 37 Dif I		Boring Name ——										
DRILLING COMPANY	DRILLER	Project Name	DAC	C-6 Parcel A P	nase II							
Gregg Drilling	Jeff DRILL BIT (S) SIZE	ł										
DRILLING METHOD (S) SIMCO 5000	6 in.	Project Number	95401	TOTAL DEPTH								
DEPTH TO WATER		ELEVATION		26.	5 ft.							
Not Encountered LOGGED BY		DATE STARTED		DATE COMPLETED								
K. Knight		3/25/96		3/2	5/96							
SAMPLES	Manuell SO	IL DESCRIPTION AND	DRILLING	REMARKS								
	Concrete, 6 inches Background OVM: 0.0 ppn											
-         -   -   -	Background OVM: 0.0 ppn	1										
	1				1							
	Ļ				-							
	L	,										
	ſ				J							
5-111111111111111111111111111111111111	Sandy SILT: brown, fine, fi	rm, dry to slightly moist										
<b>※※※</b>   <del> </del>	Bottom of Machine Pit I											
	FORMI OF MARMING LIFT				-							
	L				4							
<u> </u>												
10-      <sub>ML</sub>	<b>-</b>				1							
3   1   1   1   1   1   1   1   1   1					1							
	L				-							
<b>********</b>   1					_							
<del>                                      </del>	†	•										
<u>                                     </u>	ŀ											
15-	<b>.</b>											
15]         ML				•	-							
					_							
<b>*****</b>   -	ľ											
<b>                                      </b>	t											
[					1							
CL	Silty CLAY: brown, firm, 1	minor fine sand, slightly m	oist		-							
20-	Ĺ				-							
	ſ				·							
	t				,							
	ŀ				-							
T	Sandy SILT: light brown, i	ine, firm, dry to slightly m	oist		-							
25-		•										
<b>₩₩</b> ₩   -												
	ŀ				1							
	<b>-</b>				4							
		F 6			-							
	Boring Completed at 26.	o ieet.										
- 30-	t											
	<b>F</b>											
	<b> </b>				-							
	L				4							
	ſ				_							
	ţ											
35	ŀ				1							
	-				-							
	_				4							
					-							
	ţ		,									
	ŀ				Ī							
40-	ŀ				-							
	Ļ				• -							
					-							

BORING LOCATION  Building	. 37 E	)				Boring Name3I-2			
DRILLING COMPAN	Y			DRILLER Jef	Ť	Project Name	DAC	C-6 Parcel A Phase II	
Gregg I	(S)			DRILL BIT (S	S) SIZE	Project Number	<u>95401</u>	9.01	
SIMCO DEPTH TO WATER						ELEVATION		TOTAL DEPTH 26.5 ft.	
Not Enc		rea				DATE STARTED 3/25/96		DATE COMPLETED 3/25/96	
K. Knig			,,,,,	Marca #			ייבי ז זומר		
Driven Recovered Collected Head Space Roading (mg/L)	Depth (feet)	Lithology	USCS Log	Mannell Color		IL DESCRIPTION AND I	ZILLING	ALWIARAS	
V S OFES					Concrete, 6 inches Background OVM: 0.0 ppm			_	
								·	
	_							4	
-				-				•	
×××××	5-		SM	ŀ	Silty SAND: light brown, fi	ne, dry to slightly moist, p	oorly grade	ed "	
	4		} <del> </del>		Bottom of Machine Pit I				
-	-			ļ				1	
				[					
	10-				0 - 1 OF The Land	ion and aliabeth maint			
	10-		ML		Sandy SILT: brown, with m	nca, sort, sugnuy moist			
-	_							-	
-	-				•				
-	-			ŀ	-				
	15-		ML	Ì	•				
	-			·	•				
					• .			-	
	] .		<b>L</b>						
	20-		ML		Clayey SILT			1	
	] .			}	_			-	
					-			1	
<b>-</b>					-				
			ML						
	25				-				
-	<del>                                     </del>	1			-			-	
	.	1						,	
		-			Boring Completed at 26.5	5 feet.		1	
-	30	1			<b>-</b>			]	
		-			-			]	
		†			•				
		] .							
	35				-			-	
	33	1							
		4			_				
		-			}			•	
		1			}			-	
	40	1			<b>†</b>			•	
		1						-	
		1			Γ				

BORIN		CATION						Boring Name —	3J-1		
DRILL	ING	Buildin COMPAN	ΙΥ			DRILLER	-	Project Name		C-6 Parcel	A Phase II
		Fregg I	rillin:		·····	Je DRILL BIT (	S) SIZE	_	95401		
DEDT	I	ISA M WATER	obile l	3-53		6i	n	Project Number — ELEVATION		TOTAL DEPTH	
	ľ	lot End						DATE STARTED		DATE COMPLETED	26.5 ft.
LOGG		. Bartl	ing_				·	3/26/96			3/26/96
Driven Recovered P	MPI.	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Muneck Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS	
2 3	Ü	# <i>5</i> 25					Concrete brown clay, fill				-
•			-				PID: 4.5 ppm at hole, 4.6 pp	om in building			4
											4
·							• ,				- 1
							,				4
			٦								-1
											-
			_								-
											-
			10-				Bottom of Machine Pit J		·		
▓	❈		"-				Bottotti of Machine 1 it 3				-
- XXXX	XXXX		_		CL/ML	2.5Y4/4	- Silty CLAY/Clayey SILT: o	olive brown, hard, dry			-
							-				-
	_		15-		ML	2.5Y5/4	Clayey SILT: light olive bro	own, soft, friable, dry			1
▓	▓				ML	2.313/4	- Clayby Bibli. light bill bill	·····, ••···, ····,		•	-
-	XXX	9						•			1
							PID: 4.9 at rig				1
			١.								
			20		CL/ML	2.5Y4/4	Silty CLAY/Clayey SILT:	olive brown, firm, friable,	dry		1
		2	.		3						1
F	T	1					-				
-							-				1
-			.			L					
<b>**</b>			25	11111111111	ML	2.5Y5/6	Clayey SILT: light olive br	own, soft, friable, dry			
쬻	ቖ	× -	-	ишшш	<b> </b>				·		-
				1			Boring Completed at 26.	5 feet			-
				1			Doring Completed at 20.	<i>y</i> 2944		<b>V</b>	-
				]			Į.				4
			30	]							4
				]			<u></u>				4
				]			<u> </u>				4
				]							+
			30	]			1				
			35	<u> </u>			}				-
				]			-				
				]			-				_
				]			<u> </u>				-
			40	]			Ļ				
			40	<b>'</b> ]			ļ.				4
							-				-
₽		-	- 1	4		<u> </u>					

BORING LOCATION Building 37. Pit J										Boring Name —	3J-2	
DRILLING CO	YMPANY							DRILLER Je	ff .	Project Name	DAC	C-6 Parcel A Phase II
DRILLING ME	egg Dr	S)		•				DRILL BIT	(S) SIZE	Project Number _	95401	
DEPTH TO WA	A Mol								J2-	ELEVATION		TOTAL DEPTH 26.5 ft.
Not LOGGED BY	t Enco	unte	red							DATE STARTED	······································	DATE COMPLETED
	Bartlin	g	_				,			3/25/96		3/25/96
3 2	Space Reading (mg/l.)	Cepth (feet)	Lithology USCS Log			USCS Log	Manuel SOIL DESCRIPTION AND DRILLING REMARKS Color				G REMARKS	
2 2 0 2	22		X	**	**				Concrete			_
		5-					ML	2.5Y4/3	Clayey SILT: light brown to	o olive brown, soft, with f	īrm patches	
		10-	.	<b>         </b>	╫	╫			Bottom of Machine Pit J			
-		1					ML	2.5Y5/4	- Clayey SILT: light olive bro	own, firm, dry, hard and d	larker in spo	ots -
		15-					ML	2.5Y5/6	Clayey SILT: light olive bro	own, soft to firm, less clay	y, more firm	n in patches with more clay, dry
		20- -					ML	2.5Y5/6 - 4/4	Clayey SILT as above			
		<b>25</b> -					ML	2.5Y5/4	Clayey SILT as above			
-		-						,	Boring Completed at 26.5	5 feet.		-
		30-							-			<u>-</u>
		-										-
		35 <sup>-</sup>							-			
				•					<u></u>			- -
		40										• -
			1									-

Boring Log Rennedy/Johns Constitution									
BOR	BORING LOCATION Building 37, Pit K Boring Name 3K-1								
DRIL	LINC	COMPAN	ΙΥ				DRILLER	Project Name DAC C-6 Parcel A Phase II	
DRIL	LINC	Gregg I	(S)				DRILL BIT	100 M	
		HSA M WATER	obile l	3-53			6	ELEVATION TOTAL DEPTH	
DEP	нтс	Not En	counte	red				26.5 ft.	
LOG	GED I	BY						DATE STARTED DATE COMPLETED 3/25/96 3/25/96	
	SAMP								
ε	1	Space Reading (mg/l.)	Depth (feet)	Lié	bology	USCS Log	Munecil Color	SOIL DESCRIPTION AND DRILLING REMARKS	
Driven	2 3	T W E		***	***			Concrete, 6-8 inches	
				<i>HH</i>	Milli	CL	10YR3/3	Concrete, 6-8 inches dark brown clay, soft	
			_					<u> </u>	
Ll								<u> </u>	
								<u>-</u>	
								_	
			51					-	
	-		-						
			-					_	
		ľ	-						
			-					<u></u>	
	93		10-					Bottom of Machine Pit K	
		Ş Ş	-					· •	
	T	1	_			CL	2.5Y5/4	Silty CLAY: light olive brown, gritty, soft to firm, nonplastic, dry, mottled yellow	
	1		_			1			
			_					<del>-</del>	
	╛	1	15.					or other lists will an house and der	
	▓ℴ	<b>S</b>	15			ML	2.5Y6/4	Clayey SILT: light yellow brown, soft, dry	
*	XXX	2							
	1		1						
			-						
	-		-						
×	፟.		20-			ML.	2.5Y6/4	Clayey SILT: as above, more firm	
<b>※</b>	₩	<b>X</b>	-						
H									
			] .						
		1							
L.	2		25		HHH	CL -	2.5Y5/3	Silty CLAY: light olive brown, firm, nonplastic, dry	
	▩	×	] .			3	2.515/5		
	000X	×	<del>                                     </del>	111111		1			
			1	]		1	1	Boring Completed at 26.5 feet.	
				]					
				]					
		1	30	1		1			
				1					
				1		1			
				1					
<b> </b>				1				•	
			35	-				<b>†</b>	
1			1	1				<u> </u>	
				-				<b>}</b>	
				1				<u> </u>	
				1				<u> </u>	
			40	1				<b>\</b>	
			40						
			1	1		]			
L				1			<u> </u>		

ORING L	OCATIO	- 25 -	W T				Boring Name	3K-2	
RILLING	Buildin COMPA	1Y			DRILLER Jef	•	Project Name		C-6 Parcel A Phase II
RILLING	Gregg METHO	) (S)			DRILL BIT (	S) SIZE	Project Number	95401	
EPTH TO	HSA M WATER				6 ts	lla .	ELEVATION		TOTAL DEPTH 26.5 ft.
OGGED I		-	red				DATE STARTED 3/26/96		DATE COMPLETED  3/26/96
SAMPI	S. Bart				T	-			
Driven Recovered Collected	Head Spare Reading	Depth (feet)	Lithology	USCS Log	Mussell Color	SO	IL DESCRIPTION AND I	JKILLING	J KEMAKKS
<u> </u>	385 5					Concrete, 6-8 inches light brown clay fill			
					Ī	ngm orown day im			
		]							
					1				-
		5-			-				1
					}				•
		-			ŀ	PID 4-5 ppm at rig 4-5 ppm ambient air			-
		-							. ]
		-			ļ				
	į S	10-			••••••	Bottom of Machine Pit K			
	9			CL	2.5Y4/6	Silty CLAY: olive brown, f	irm to hard, dry, nonplastic	;	
							•		-
		_			 	-			
00000		15-		ML	2.5Y5/4	Clayey SILT: light olive bro	own, soft, friable, dry, with	light tan,	hard inclusions (5%)
	S X	-		WIL	2.313/7	·		- '	
-		-				-			1
-		-				-			
-		-		<b> </b>					
	Š	20-		CL	2.5Y4/4	Silty CLAY: olive brown, s	oft to firm, dry, nonplastic		-
*****	3					-			-
						-			-
-	-								
****		25		ML	2.5Y4/4	Clayey SILT: olive brown,	soft, friable, dry		
	X								
		-	1						
		'	1			Boring Completed at 26.5	i feet.		
			1						7
		30	]			•			
			1			-			_
		1	4						-
$ \cdot $		35	1			-			•
<b>-</b>			-						-
			1			<u> </u>			- -
			1			-			· -
			1						
		40	-			[			
			]			_			
		I	1			I			

BORING L	OCA	TION	37 P	14 1	۲.								Boring Name —	3L-1		
DRILLING	CON	APAN'			<b>.</b>	_				DRIL	LER Jef	•	Project Name	DAC	C-6 Parcel	A Phase II
DRILLING	MET	THOD	rilling (S)	<u> </u>			_			DRIL	T BLL (	S) SIZE	Project Number _	95401	9.01	
DEPTH TO	TAW (	TER.	5000								61	<u>.                                    </u>	ELEVATION		TOTAL DEPTH	26.5 ft.
OGGED	BY		ounte	red				_					DATE STARTED 3/25/96		DATE COMPLETED	
SAMPI		Knig		-	_			_		T	T			DOUL PIC	DEMARKS	
Driven Recovered Coffeeled	9 2		Depth (feet)		Li	theic	-67		USCS	Marae Color	•		IL DESCRIPTION AND	DKILLING	KEMAKAS	
<u> </u>	2.5	5.6		X	X	Ŷ	<b>A</b>	X				Concrete, 6 inches Background OVM: 0.0 ppm	1			-
			]				Ш									
		l		$\ $		II					-					-
.			-								- }					-
×			5-						ML		}	SILT: brown, minor sand ar	nd clay, firm, slightly moi	st		
			-	╁	H	H	╫	╫		<b></b>		Bottom of Machine Pit L				
- T T			-								f					
.			1													
	8		10-						ML							-
·	٩		-								}					
.			-		Ш						ŀ				-	-
-	-			H	₩	H	Н	+	<del>  -</del> -	<b>+</b>						
<b>***</b>			15-			$\  \ $			ML		ľ	Sandy SILT: brown, fine, s	oft to firm, slightly moist			·
<b>***</b>	2		_		Ш				<b>.</b>		Ì	•				_
		İ	-									•				. 4
		ļ	_	Щ	$\coprod$	Щ	Щ	Щ	<b>L</b> –	<u> </u>						
222			20-	$\  \ $					ML		-	Clayey SILT: brown, firm,	slightly moist			
	X		-										-			1
FIT			-			Ш						-				1
			-													
			25	ľ	ľ			Ţ					e			
	8		25-		ŀ			:	SM			Silty SAND: light brown, i	tine, loose, dry to slightly	moist		-
-	1		-	1	نعد	4.2	ائن.	-4-	1			-				-
$  \cdot   \cdot  $			-									<u>.</u>				-
<b>                                     </b>				1								P-2-61-4-3-466	E foot			-
<b> </b>			30-	1						İ		Boring Completed at 26.5	o leer			]
<b> </b>			•	1												
				1								-				-
												-				-
			35									-				. <b>=</b>
╏╽╽				-								-				
			-	-												-
				1								_				
			<u> </u>	1								-				-
			40	1												-
				]								•				
	Ш.		L	L					_!	_1						

SORING L	OCA:	TION	25 5	. ·								Boring Name	3L-2	
DRILLING	CON	MPAN	37. P			_				DRILLER Je	ar .	Project Name		C-6 Parcel A Phase II
RILLING	MET	THOD	rilling (S)							DRILL BIT	(S) SIZE		95401	9.01
DEPTH TO	) WAI	TER	5000	_		_					n	Project Number — ELEVATION		TOTAL DEPTH 28 ft.
OGGED	BY		ounter	red								DATE STARTED 3/25/96		DATE COMPLETED 3/25/96
SAMP		Knig		-		_		٦	Ī				DD# 1 D1//	
Driven Recovered Collected	3 8	(me/l)	Depth (feet)		Lid	holog	7		USCS Log	Munucii Color	SO	IL DESCRIPTION AND	DKILLING	KEMARKS
<u> </u>	3.3	÷25		X	$\langle \hat{\chi} \rangle$		X	X			Concrete, 6 inches Background OVM: 0.0 ppn	1	,	-
			1								L Dackground O v Mr. 0.0 pp.	-		4
		ı	]	Ш							-			-
				II							-			1
~		Ī	5-	H					мL		Sandy SILT: brown, fine, s	oft, dry to slightly moist		
	8	l		#	$\parallel \parallel$	╫	$\mathbb{H}$	H			Bottom of Machine Pit L			
-	1	j	- {	$\ $				Ш						1
-			4					$\ \ $			-			]
-			4		$\ \ $						<u> </u>			
	Z		10-						ML		<u>-</u>			: -
⋘⋘	8	İ	]					Ш			-			
-		Ì	4		Ш		Ш	Ш			-			
×××××			15		Ш			Ш	ML					. 1
			4				Ш	Ш				•		
-			-		Ш		Ш							-
			-		Ш		Ш	Ш		L	L			
			20-	Ш	$\ $	Ш	$\prod$	П				-1: -1-4h it		-
	X		20-				Ш		ML		Clayey SILT: brown, firm,	sugnity moist		
-			_								-			-
-			-	Ш							-			·
$\mid \cdot \mid \cdot \mid$			٠_	Н.	<del>  </del>	H	#	#	<b>  </b>					
	8		25-		ŀ				SM		Silty SAND: light brown,	fine, loose, dry to slightly	moist	-
	Σ2 Σ2		-			H		ŀ	#					- -
				ĮĮ.	Ŀ	Ŀ		1	1					
											}		•	•
			30-	-							Boring Completed at 28	feet.		•
				-							-			1
<b>-</b>				1							-			
			•	1							-			
				1								•		. +
			35	1										
											<b>L</b> .			
									1		+			-
				-							}			-
			40	1							+			•
<b>₽</b> ││				+							<u> </u>			-
▐╸│▕				1					ı		<u> </u>			

)()								AT 1	
SORING L	ocation Buildin		it M				Boring Name	3M-1	
RILLING	COMPAN	ſΥ			DRILLER Jef	•	Project Name	DAC	C-6 Parcel A Phase II
DRILLING	Gregg I	(S)			DRILL BIT (S	) SIZE	-	95401	9.01
EPTH TO	HSA M	obile E	-53		6 ir	<b>.</b>	Project Number — ELEVATION		TOTAL DEPTH
1	Not En	counte	red						28 ft.  DATE COMPLETED
OGGED I	3Y					-	DATE STARTED 3/26/96		3/26/96
SAMPI	S. Barti				T				DEL CADVO
Driven Recovered Collected	- 2 <b>5</b> 2	Depth (feet)	Lithology	USCS Log	Mannell Color	SO	IL DESCRIPTION AND I	DRILLING	KEMAKKS
Collect Oriver	R Space		*****			Concrete, 6 inches			
			MAMAM			light brown clay fill			-
					-				-
					-				-
					Į.				4
					L				4
·		51		ML		Clayey SILT/Silty CLAY: li	ight olive brown, soft		· · · · · · · · · · · · · · · · · · ·
.		1			ſ				_
.		1 1			Ī				
-					ł				
.		-		<b> </b>  -					
<b></b>	1	10-		<b>!</b>	}	Bottom of Machine Pit M			1
	zi B	] []			-				1
****	9			CL	2.5Y4/4	Silty CLAY: olive brown, h	ard, dry, nonplastic		-
						•			-
		]							
		1 1		<b> </b>					
‱.		15		ML	2.5Y5/4	Clayey SILT: light olive bro PID: 4.2 ppm at hole	own, soft, friable, dry		
	8	1			[	. FID. 4.2 ppm at note			
		-			ļ	•			
-		-				•	-		
		-		I L					
		20-		CL	2.5Y4/4	Silty CLAY: olive brown, s	soft to firm, dry		
	8			CL	2.314/7	- Sitty CERTI. Sitte Stories	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-
XXXXXX	2				1	<u>-</u>			-
	1						•		-
		-							-
		1 -		<b> </b>					
<b>***</b>		25-		ML	2.5Y5/4	Clayey SILT: light olive br	own, soft, dry		
	8	-				-			
▓₩	8	-				_			
		<b> </b>	шшшш	4					
			Į.			•			
		30-	1			Boring Completed at 28 i	leet.		•
		"	]	1		Doinis Combieres at 50	, <del>,</del>		-
			]			_			-
	1				·				4
		'	1						-
		'	1						
$  \cdot  $		35	1						
-			-			†			
₽ I I		1	-	1		-			•
			4			<b>-</b>			1
			4			}			
		40	]			<b> </b>			
		"	]			1			-
			]	1.					-
∎ I I	1	1	1	1					

		ig L										
BORI	NG L	OCATION Buildin	<u> 37. I</u>	Ht M				Boring N	Name ——	3M-2		
DRIL	LING	Buildin COMPAN Gregg I	Y Y				DRILLER Je	Project I	Name	DAC	C-6 Parcel A	Phase II
DRIL	LING	METHOL	(S)			<u>.</u>	DRILL BIT (	\ C17E		95401	9.01	
Dept	H Tr	HSA M WATER	obile !	B-53			6 i	ELEVATION	Number		TOTAL DEPTH	26.5.5
		Not End	ounte	red	-,			DATE STARTI	ED		DATE COMPLETED	26.5 ft.
LOG	GED :	sy S. Bartl	ing	•					3/26/96			3/26/96
$\Box$	AMP B B		Depth	Litholog	<b>y</b>	USCS Log	Mannell Color	SOIL DESCRI	PTION AND I	DRILLING	REMARKS	
ă	2 3	3885		XXXX	$\infty$			Concrete, 6 inches				
			5-			CL		brown clay Silty CLAY: light olive brown, soft				
			10-					Bottom of Machine Pit M				
- -	***	X	-			CL	2.5Y4/4	Silty CLAY: olive brown, firm, nonplas	stic		-	•
			15 <sup>.</sup>			 ML	 2.5Y5/4	Clayey SILT: light olive brown, firm, fr				
						ML	2.313/4	Clayby Sill 1. light out of the time, 1				·
		SOOT TO SOOT T	20			ML	2.5Y5/4	Clayey SILT as above				-
- ***	***		25			ML	2.5¥5/4	Clayey SILT as above				
	***		35	-				Boring Completed at 26.5 feet.				

		ig L						J/OURID CONSTITUTION
BORI	NG L	ocation Buildin	- 37 K	ou M			Boring Name 3	VI-3
DRIL	LINC	COMPAN	ſΥ			DRILLER	n	AC C-6 Parcel A Phase II
DD#	I DIC	Gregg I	<u>)rillin</u>	<u> </u>		Jet DRILL BIT (	SIZE	
		HSA M	obile 1	B-53		6 i		54019.01 TOTAL DEPTH
DEPI	TH TO	WATER Not En		mad			ELEVATION	26.5 ft.
LOG	GED	BY		160			DATE STARTED	DATE COMPLETED 3/26/96
	SAMP	S. Bartl	ing				3/26/96	3/20/70
֓֡֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	2 -	I	Depth (feet)	Lithology	USCS Log	Munnell Color	SOIL DESCRIPTION AND DRIE	LLING REMARKS
P S	عُ الْحُ	Hend Space Reading (mg/L)					Concrete, 6 inches	
				<i>HHHHH</i>	CL	- 1	brown clay	· · · · · · · · · · · · · · · · · · ·
		ļ				Į		-
								4
			-					j
		ļ	-			Ì		
	-		5-		CL	ŀ	Silty CLAY: olive brown	1
-			-			}		1
	1		- ا			}		1
			_					-
	İ		_					4
						1		
***	፟	S S	10-	Millilli	<b> </b> †		Bottom of Machine Pit M	·
***	ॐ	8	٠		1			
-			-		CL	2.5Y4/4	Silty CLAY: olive brown, firm to hard, nonplastic, damp PID: 6.6 ppm ambient air	· · · · · · · · · · · · · · · · · · ·
			-				5.8 ppm at rig	1
		1	.		1			
			15					· · · · · · · · · · · · · · · · · · ·
	❈	8	13		CL/ ML	2.5Y5/4	Silty CLAY/Clayey SILT: light olive brown, soft, nonplas	tic, dry
**	⋘	4					PID: 5.1 bag sample	
	ł		-					
▐▐			-		1			
	- 1		١.					1
200			20		CL/			
	▓	3			ML	2.5Y5/4	Silty CLAY/Clayey SILT: light olive brown, soft to firm,	dry -
	×	24	١.					
								4
			'		<b>!</b> +			
	ı	-	] '	11111111111111111	}			
XX	፟.		25	<b></b>	ML	2.5Y5/4	Clayey SILT: light olive brown, soft, dry, less clay, trace of PID 4.7 ambient air	of sand
▓	₩	×					PID 4.7 ambient air	
-	T			4				1
				1				1
				1				
			-					4
			30	1			Boring Completed at 26.5 feet.	
				1		,		1
				1				<u>.</u>
				-				1
				4	1 1			1
			35	1				· 1
				]				4
								4
	ļ			1				1
				1				<b>1</b>
		1		+				
-		]	40	4				
	$  \  $			4	1			1
		}		]				-
L	Ш			1				

BORIN	GLC	CATION	-					Boring Name	3N-1	
DRILLI	NG (	uildin XXIV	<u>2 37. F</u> Y	Pit N		DRILLER		_		C-6 Parcel A Phase II
	•	regg I	rillin	£		Jef DRILL BIT (S	T S) SIZE	Project Name	95401	
	E	ISA M WATER	obile 1	B-53		6 is	n	Project Number		TOTAL DEPTH
	N	ot Enc	ounte	red				DATE STARTED		27 ft.  DATE COMPLETED
LOGGE	DB S	y . Bartl	ing				-	3/25/96		3/25/96
Driven Recovered SS	MPL.		Depth (fest)	Lithology	USCS Log	Munsell Color	SOI	IL DESCRIPTION AND I	DRILLING	REMARKS
돌	3	5 <b>95</b> E		XXXXXX			Concrete, 6 inches			
			5-		CL	2.5Y6/4 to 4/4	CLAY: with sand and silt, li	ght yellow brown to olive	brown, dry	, soft
燚			10							
-	×××		-		CL	2.5Y4/3 	Silty CLAY: olive brown, fi	rm, nonplastic, moist		
			15		ML	2.5Y5/3	Clayey SILT: light olive bro	own, soft, moist		
-	<b>*</b>		20		ML	2.5Y4/4	Clayey SILT: as above			
			25		ML		Clayey SILT: as above			
			30				Boring Completed at 27 f	eet.		-
			35				-			- - -
			40	 						-

Kennedy/Jenks Consultants

BORIN	ιGΙζ	CATION Buildin	. 27 1	14 N						Boring Name —	3N-2	
DRILL	ING	COMPAN	Ϋ́				_	DRILLER Je	ar .	Project Name	DAC	C-6 Parcel A Phase II
DRILL	ING	regg [	<b>(S)</b>					DRILL BIT	(S) SIZE	Project Number _	954019	
DEPTI	OTE	ISA M					-	61	lile .	ELEVATION		TOTAL DEPTH  26.5 ft.
LOGG	ED B	ot Enc		red						DATE STARTED		DATE COMPLETED 3/25/96
	S MPL	. Bartl	ing							3/25/96	1	
v.cn	Jected	7 8 <del>8</del> 6	Depth (feet)		Litholog	•	USCS Log	Mansell Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS
É	ট	Speca Read		$\infty$	XX	<b>XX</b>	<del></del>		Concrete, 6 inches Silty CLAY/Clayey SILT: 1	ight alive brown		
-			-				CL/ ML		Sifty CLAY/Clayey SILI:	ight office brown		]
•			-									_
			7									_
			_									4
			5					:	_			4
									· ·			1
												1
-			-						-			1
XXXX	5		10-				ļ		Bottom of Machine Pit N			
			-				ML	2.5Y4/4	Clayey SILT, olive brown,	hard to very hard, dry, so	me purple me	etallic sheen in spots
-			-				1012	to 5/4	7	• • •		
-			-	Ш								
-	-		-						-			
<b>XXX</b>			15-				ML	2.5Y5/4	Clayey SILT: light olive br	own, soft to firm, dry		
***	888		-						<del>-</del> '	-		_
			-									-
<b> </b>			-									-
-										<b>.</b>		: 1
			20				ML	2.5Y5/4	Clayey SILT: light olive br	own, soft to firm, with m	ore clay in th	in lenses .
***	XXX											
					Ш							1
		1			Ш			:				+
XXXX	<b>X</b>		25				ML	2.5Y5/4	Clayey SILT: as above			-
			~		Ш	ШШ						-
-	700			Γ					<b>-</b>			
-				1					ŀ			1
$\ \cdot\ $				1					Boring Completed at 26.	5 feet.		]
<b> </b>			30	1					Dornig Completed at 20.	J 100th		]
-				1								
				1								
				1								-
				1								
			35	]			1					•
				]					_			-
									1			
									-			-
			40						-			-
			""						-			-
				1					-			-

BORI	NG LC	CATION wilding	. 37 E	)jt 4	0					Boring Name	30-1		
DRIL	LING	OMPAN	Y					DRILLER Je	r	Project Name	DAC	C-6 Parcel A	Phase II
DRIL	LING	METHOD	<b>(S)</b>		2			DRILL BIT (	S) SIZE	Project Number	95401		
DEPT	H TO	ISA MO WATER lot Enc								ELEVATION		TOTAL DEPTH	26.5 ft.
LOGG	ED B	Y		reu	<u>'</u>					DATE STARTED 3/26/96		DATE COMPLETED	3/26/96
8	AMPL	. Barti									DIL I DIC	DEMARKS	
Dalven	ollected	1884 1884	Depth (fost)		Lith	dogy	USCS Log	Mansell Color	SO:	IL DESCRIPTION AND I	DRILLING	REMARKS	
<u> </u>	2 0	igee		<b>X</b>	M		ML		Concrete, 6 inches SILT: brown to olive brown	ı, soft, dry			_
.			-										-
-			4				3		•				
•			-						•				-
٠			5-						•				-
													-
			_						-				-
.			-										-
	Z	,	10-				<b></b>		Bottom of Machine Pit O				
▓			-				CL/	2.5Y5/4	Silty CLAY/ Clayey SILT:	light olive brown to olive b	rown, firm	, nonplastic, dry	
			-				ML	to 4/4	•	,			
			_					L	· 				
			15-	$\prod$	$\prod$				arm the time has	<i>6 4</i>			-
			15-		Ш		ML	2.5Y5/4 to 5/6	Clayey SILT: light olive bro	own, mini, dry		•	
-	×××××		-						-			•	-
-			-	$\  \ $	Ш			i	<del>-</del>				-
$\lfloor \cdot \rfloor$			-	$\  \ $	Ш								
<b>***</b>	<b></b>		20-	╢	Ш		ML	2.5Y5/4	Clayey SILT: as above, trac	e of very fine sand			-
	****		-	╢			1		-				4
			-	Ш	Ш								-
					$\parallel \parallel$								-
X	55		25-	╢			ML	2.5Y5/4	Clayey SILT: as above				
					Ш								-
F			-	-									1
$\mid \mid$				1									1
				1					Boring Completed at 26.5	5 feet.			4
		•	30	]					 				-
													_
		1		-									_
				-					-				
-			35	-					<b>-</b>				-
<b>-</b>				1					<u> </u>			•	_
-				1			Ī		<u> </u>				. 7
				1					[				-
			40	]					-				-
			40	]					ļ.				-
-				-					-				-

BORII	ig ig	CATI	ON	27 P.								Boring Name —	30-2		
DRILI	ING	COMI	PANY	37. P	<u>u v</u>					DRILLER Je	er .	Project Name	DAC	C-6 Parcel	A Phase II
DRILI	ING	METH	IOD (	illing S)						DRILL BIT	(S) SIZE	Project Number _	95401	9.01	
DEPT	OT	WATE	R	bile B						1	dl•	ELEVATION		TOTAL DEPTH	26.5 ft.
LOGO	ED B	Y		unte	red							DATE STARTED 3/26/96		DATE COMPLETED	3/26/96
	MP	S. Ba	$\Box$					٦	USCS	Manuell	SO	IL DESCRIPTION AND	DRILLING	REMARKS	
Driven	Collected	Space Space Redina	(ingl)	(cet)		Lithol	<b>∘</b> €7		USCS Log	Manuell Color					
			T		$\widetilde{\mathscr{M}}$	$\mathscr{M}$	#	%	CL	10YR/3/6	Concrete, 6 inches Silty CLAY: fill, dark yellov	w brown, nonplastic			
				5					CI√ ML		Silty CLAY/Clayey SILT: y	vellow brown, soft			,
-			l	-						:	-				
				10	$\parallel$				·		Bottom of Machine Pit O				-
	***			]					ML	2.5Y5/6	Clayey SILT: light olive bro	own, soft, dry			-
				15-					ML	2.5Y6/6	Clayey SILT: olive yellow,	soft, dry, less clay			
- -		SXXXX		20-					ML		Clayey SILT: as above				
			Ì	-							-				
<b>***</b>				25-					ML		Clayey SILT: as above				•
		58		30-							Boring Completed at 26.	5 feet.			

BORIN	GLO	CATION		_							Boring Name	4	
DRILL	ING (	outher OMPAN	Ϋ́		of E	<u>Suild</u>	ing	37	DRILLER			DAC	C-6 Parcel A Phase II
	G	regg I	)rillin	<u> </u>				<del></del>	Je DRILL BIT (	ff S) SIZE	Project Name	95401	
	S	IMCO	5000						61	n.	Project Number ELEVATION	73401	TOTAL DEPTH
DEPTI	OT I N	water ot Enc	counte	red					·		DATE STARTED		26.5 ft.
LOGG	EDB	r L. Knig	ht							-	3/27/96		3/27/96
<b>1</b> 8	MPI.		Depth (feet)		Lithele	·£7	Ī	USC3 Log	Munuell Color	so	IL DESCRIPTION AND	DRILLING	REMARKS
E 2	Ŝ	₹%§€		$\infty$	<b>X</b>	XX	ᅿ	-		Concrete, 6 inches			
<u> </u>			-							Background OVM: 0.0 ppm			
			-					CL		- Silty CLAY: dark brown an	d gray, low plasticity, slig	nuy moist	
<b>-</b>			-							-			
<b> </b>			-	$\mathbf{m}$			悄	†					
			5				Ш	ML		Sandy SILT: brown, fine, fi	rm, slightly moist		
₩₩	▩		-				III			-			,
			-							<del>-</del>			
			-	1111									
			-	₩			║	1					
			10-		Ш		Ш	ML		Clayey SILT: dark brown, i	irm, slightly moist		=
***	***		·	1111	Ш								•
			'		Ш								
			•	11111			Ш						
***			15	11:1	: : : :			SM		Silty SAND: brown, fine, l	oose, slightly moist		
⋘	***									_			-
										-			
										-			-
			20										-
***			20					SM		-			_
***	XXX									-			-
										_			-
										-			-
		ļ	25	$\ \cdot\ $					·				-
			25					SM		<u> </u>			
	XXX		$\vdash$	1	تناتنا	تنت	اتنا			-			
													-
				1				]		Boring Completed at 26.	5 fect.		-
			30	1							<del></del> -		
								l		}			_
				1						-			<u>-</u>
				-					[	-			-
				-						-			-
			35	; d						-			• •
				1				]		-			•
				1					1	<b>-</b>			-
				-						}			-
				-				1		}			-
			40	$\forall$						}			•
				-						<u> </u>			•
				-				<u>L</u>					

ORING L	OCATIC	Ñ			t to	nord	hern ele	vator		Boring Name	5A	,
RILLING	COMPA	NY	<u>ra p</u>	ren.	<u>, w</u>	HOLL	hern ele	DRILLER	rte	Project Name	DAC	C-6 Parcel A Phase II
RILLING		DD(S)						DRILL BIT	(S) SIZE	1	95401	
EPTH TO	Geopr WATER	<b>.</b>					·		in.	Project Number ELEVATION		TOTAL DEPTH  36 ft.
OGGED I		count	ered	<u> </u>						DATE STARTED		DATE COMPLETED 4/5/96
SAMPL	J. Kni	ght		_	-	_	<del></del>		•	4/5/96		
Driven Recovered Collected	_و	Depth (feet)		Lish	ology		USCS Log	Munnell Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS
হ ই ও	¥8.		K	M.	<del>M</del>	<i>₩</i>			Concrete, 4"			_
		1							<b>-</b>			-
		'							-			
		1										=
		_										
		5					CL		Silty CLAY: dark brown, n	oist, trace of coarse sand,	, medium pl	asticity -
									_			-
									-			-
									-			
		10							brown, slightly moist, low	alacticity		4
		"					CL		brown, sugnity moist, low	proces		-
.												
.		1 .							<b>.</b>			-
****							<del> </del>		<del> </del>			
		15	╢			Ш	мL		Sandy SILT: brown, very f	ine to fine, moist		
<b>****</b>			$\  \ $							•		
-			$\  \ $			Ш			<u> </u>			
-			$\  \ $			Ш			<b>}</b>			
<b>***</b>			₩	Н	HH	╫	<del> </del>		†			
		20	1				ML		Clayey SILT: brown, mois	t, trace of very fine sand		
******			1	Ш					Ī			
			111									-
			111		$\ \ $		L		[			
			$\prod$	$\prod$	$\prod$						aiat	-
		25	][[				ML		Sandy SILT: brown, very	ine sand, trace of ciay, me	UISL	
												-
									-			-
									-			-
		30	$\  \ $				ML		-			· · · · · · · · · · · · · · · · · · ·
			$\parallel$				ML		-			-
			$\left\  \cdot \right\ $		$\  \ $				-			-
			$\ \cdot\ $						<b>}</b>			•
XX50X			$\parallel$						<b>†</b>			•
		35	5 <b> </b>				ML		some clay, slightly moist			•
	7—	-	╫	Ш	Ш	Ш	+					
			1						<u> </u>			
			1									
			1						Boring Completed at 36	feet.		
		40	머									
			1						[			
- 1	- 1	ı	4				i	1				

BORING		CATION		-				_		Boring Name 5B	
DRILLI	B NG (	mildin COMPAN	<b>61.</b> a	dj	acent	to 501	<u>uther</u>	m elev	DRILLER	DAC C-6 Parcel A Phase II	
	N	(aness							DRILL BIT	Project Name DAC C-0 Tarcer A Thase A	
	G	METHOI Geopro							2	r (s) SIZE Project Number 954019.01 ELEVATION TOTAL DEPTH	=
DEPTH	TO	WATER of En		7	 d					36 ft.	
LOGGE	DB'	Ÿ			<del>-</del>		-			DATE STARTED DATE COMPLETED 4/5/96 4/5/96	
SA	APL F	. Knig					Т	Т			
12	Z		Depth (feet)		Lithoi	logy	Į U	ISCS Log	Munseli Color	SOIL DESCRIPTION AND DRILLING REMARKS	
Driven Recov	3	Space Readin (mg/L)		k	XX2	<u> </u>	ᆋ			Concrete, 4"	1
-			-	Ш			Ш				1
-			-	Ш			Ш				1
-			-	Ш						<del>}</del>	1
XX			-							· · · · · · · · · · · · · · · · · · ·	1
			5-				М	n.		Sandy SILT: brown, very fine to fine sand, moist	1
***			-				'''	_		}	1
			-							}	1
			-							}	1
										}	
⋘			10-				м	,,		trace of clay	1
₩₩			<u> </u>	$\ $			$\prod^{M}$	L			1
				$\ $						· ·	-
											1
$\coprod$				$\ $				1		-	-
			15	$\ $				_		Calabana a day aliabety major	4
⋘			12.				М	IL		light brown, no clay, slightly moist	
	]							1			-
			'								
			'	11				- 1			-
		<u> </u>		][							4
			20	11			М	AL		moist	4
	1			11							-
				11				ĺ			-
			1	11							4
<b>XX</b>				1				]			4
₩			25	1			М	AL			4
	٩			1				İ			
			1	ᅦ							
-				$\parallel$							
<b>***</b>	8			$\parallel$							
	Š	1	30				<sub>N</sub>	AL		<u> </u>	
	8			$\ $						<u> </u>	
				$\ $						t	1
<b> </b>		1		$\ $						<u> </u>	1
2000	ş			$\ $						<u> </u>	1
	₩	Ž	35	$ \cdot $			$\ \ _{\lambda}$	ИL		brown, very fine to fine sand, very moist	1
	**	1	+-	4	ШЦ	ШШ	Щ				
				1						+	1
				-			-			<u>}</u>	1
				1						<u></u>	1
			40	H			İ			Boring Completed at 36 feet.	1
			"	1						}	1
				1							

Kennedy/Jenks Consultants **Boring Log** BORING LOCATION Boring Name Outside northeast corner of building 61
DRILLING COMPANY DRILLER DAC C-6 Parcel A Phase II **Project Name** Pete
DRILL BIT (S) SIZE 954019.01 DRILLING METHOD (S) Project Number ELEVATION 2 in. Geoprobe TOTAL DEPTH DEPTH TO WATER 26 ft. Not Encountered DATE COMPLETED DATE STARTED OGGED BY 4/1/96 4/1/96 J. Knight SOIL DESCRIPTION AND DRILLING REMARKS Munecil Color Concrete, 4" 7.0 Sandy SILT: brown, very fine to fine sand, moist 7.1 trace of clay 7.3 light brown, no clay, slightly moist moist 6.8 6.9 Boring Completed at 26 feet. 30 35 40-

ORIN	GLO	CATION						Boring Name	7A		
RILL	ING C	wilding OMPAN	Y			DRILLER		Project Name	DAC	C-6 Parcel A	Phase II
RILL	ING N	regg I	(S)			DRILL BIT (3	S) SIZE	Project Number	95401		
ЕРП	707	ydroP vater				1	lle	ELEVATION		TOTAL DEPTH	26 ft.
.ogg	ED B	ot Enc		red				DATE STARTED 4/8/96		DATE COMPLETED	4/8/96
	MPLE	Knig s	t								4070
Driven	Pocked	Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Maraell Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS	
Driver Recov	3	E & S E		<u>ንስስስስስ</u>			Concrete, 4"				
			1			f					•
			1			Ī	•				4
			1			. [	•				4
		5.3	5-			ļ	Sandy SILT: brown, very fi	ne and some along slightly	v moist		4
▩		J.J	٦		ML		Sandy SIL1: brown, very in	me saint, some ciay, sugmi	у шоше		4
.			4			ŀ	•				-
			-			}	-				
XXX			-			ŀ	-				_
	綴	5.8	10-		ML		decreasing clay, soft				
***	2		-			İ	-				-
			1				- -				-
-							<u>-</u>				-
		6.1	15-				<b>.</b>				-
▓	****	•	1.5		ML		dry				
-			-								
-			-								
XXX	×		-				-				
	▩	6.5	20-		ML		slightly moist				·
XXX	×		-								
			-								4
	_										
▓		6.0	25-		, a		-				- 1
	***		<u> </u>		ML	-					
$\lfloor \cdot \rfloor$			-	-			-				-
$  \cdot  $			-	1			<u> </u>				]
-			-	1			Boring Completed at 26	feet.			, ]
			30-	1							4
				]							-
							ļ				_
							<u> </u>				_
			35	1			-				-
			] .				}				_
			.	4	1		-				-
-			.	-			-				-
-				1			ŀ				
-			40	1							-
				1			[				
H	1	1	1	1			Г				

ORIN	GLO	CATION									Boring Name	7C		
ORILL	ING C	uilding OMPAN	Y					-	DRILLER		Project Name	DAC	C-6 Parcel A	Phase II
RILL	ING N	regg D	(S)						DRILL BIT	(S) SIZE		95401		
EPTI	TO	ydro F vater							2	n.	Project Number		TOTAL DEPTH	26 ft.
OGG	ED BY	ot Enc		red				<del>.</del>			DATE STARTED		DATE COMPLETED	
	J.	Knigh	t				Т			·	4/8/96			4/8/96
oriven (seovered	E.	. \$ <del>\$</del>	Depth (feet)	L	itholog	€7		USCS Log	Manuell Color	SOI	L DESCRIPTION AND I	ORILLING	REMARKS	
Racon E	3		-	YYY	袻	夼夼	싦			Concrete, 4"			<u> </u>	
			1							-				
			1		Ш									
			]		Ш									-
		5.3					Ш			Clayey SILT: dark brown, sli	inhelm major tenno of yes	fine cand		-
▓		3.3	٦'					ML		- Clayey SILI: dank brown, si	igntly moist, trace of very	IMC Salks		-
			4		Ш		Ш			-				-
			-			Ш			:					
XXX			+	╫╫	₩	₩	₩	†						
	綴	5.8	10-		Ш	Ш	III	ML		Sandy SILT: brown, very fin	e sand, slightly moist, so	ne clay		]
××××			1	Ш	$\parallel \parallel$	Ш								
			1										-	_
			1		Ш	Ш								
▓		6.2	, ]		Ш			ML		decreasing clay, soft				-
▓		0.2	15-		Ш									-
			4		Ш	Ш				-	•			- 1
-			-		Ш	Ш				-				-
×××			-		Ш			ML		dry, soft				1
	▩	6.2	20-							•				
***	9		-											
			7							<del>-</del>				-
			1		Ш									-
***		6.3	25-					ML		some clay, slightly moist				_
		<b>9.3</b>	43	Ш	Ш	Ш	Щ							
										-				-
			-							D 10 - Company 1 - 4 2 C 5				
$ \cdot $			-							Boring Completed at 26 fe	T.			=
$ \cdot $			30-							ţ				_
$\mid \cdot \mid$			-											-
			-											-
			35-				,			<u></u>				
			-							-				-
			-							}				-
			-						1	}				
-			-					l		<u> </u>				-
$ \cdot $			40-											- -
			-	1										
$\vdash$	1	1	-	1					l					

BORING	ľO	CATION	. 57						Boring Name ——	7D	
DRILLIN	IG C	uilding OMPAN	Y				DRILLER		Project Name	DAC	C-6 Parcel A Phase II
DRILLIN	IG N	regg D	<b>(S)</b>	<u> </u>			DRILL BIT (	S) SIZE	1	95401	9.01
DEPTH 1	701	ydro I vater						lle .	Project Number =		TOTAL DEPTH 36 ft.
LOGGEI	) B	ot Enc		red					DATE STARTED 4/8/96		DATE COMPLETED 4/8/96
SAN	OP F		Depth (feet)	Lith	niogy	USC3 Log	Munsell Color	so	IL DESCRIPTION AND	DRILLING	
Racov	3	Space Reading (mg/L)		<del>\</del>	***			Concrete, 4"			
-	**	4.7	5-			CL -		Silty CLAY: dark brown, m	oist, medium plasticity		
-	***	5.2	10-			ML		Sandy SILT: brown, very fi	ine sand, slightly moist, tra	ace of clay	
	***	5.5	15-			ML		dry, no clay			
	<b>**</b>	6.1	20 <sup>-</sup>			мL		slightly moist			
	***	6.3	25			ML					
		6.0	30	-		ML		Clayey SILT: dark brown,	slightly moist, some very	fine sand	
	×	5.8	35	-		ML	·	brown, some sandy lenses	:		-
			40					Boring Completed at 36	feet.		

Kennedy/Jenks Consultants **Boring Log** Boring Name Outside northeast corner of Building 67 DRILLER DAC C-6 Parcel A Phase II DRILLING COMPANY **Project Name** Pete DRILL BIT (S) SIZE Maness DRILLING METHOD (S) 954019.01 Project Number Geoprobe TOTAL DEPTH DEPTH TO WATER 26 ft. Not Encountered DATE STARTED DATE COMPLETED LOGGED BY 4/2/96 4/2/96 J. Knight SOIL DESCRIPTION AND DRILLING REMARKS Manaell Color Concrete, 6" Silty SAND: dark brown, very fine to fine, moist, with lenses of medium sand Clayey SILT: dark brown, very moist, trace of medium to coarse sand Sandy SILT: brown, very fine to fine, moist, with pods of dry gray clay slightly moist, some clay Boring Completed at 26 feet. 30-35 40

			<u>L</u> O		_										
BOI	RING	LOC	ATION orthea	# 00F	ner (	nf F	Rmild	line	67			Boring Name -	_11A_		
DRI	LLIN	Gα	OMPAN	Y	iici s	<u> </u>				DRILLER		Project Name	DAC	C-6 Parcel A	Phase II
202	T T TAL	M	aness ETHOD	(8)						DRILL BIT	(E) C17E	-	95401		
		G	eoprol	e						2	im i	Project Number _	73401	TOTAL DEPTH	
DEI	THT	OW.	ATER of Enc	omnte	red										26 ft.
LO	GGED	BY									ľ	A/4/96		DATE COMPLETED	4/4/96
<u> </u>	SAMI		Knigh	t					1		*				
	<u> </u>	E I	,,	Depth (feet)	,	Litho	logy		USCS Log	Manaell Color	SOII	DESCRIPTION AND	DRILLING	REMARKS	
Orbe	Yecov.	3 3	Speco Reading (mg/L.)	, ,		_	_								
					m	%	W	$\widetilde{m}$			Concrete, 4"				- 4
	İ			1											4
		ļ	l	1											_
			I	-							,				<u>.</u>
XX				-					3		<u> </u>				
	₩		4.1	5-					CL		Silty CLAY: dark brown, mo	ist, low plasticity			
<b>88</b>	₩°	~		4		III									1
ŀ				_							}				
											<u> </u>				1
L	Ш			-	Ш	Ш	Ш	Ш	1		L				
<b>**</b>	▓	8	٠, ا									. A. E			4
×	₩	器	5.1	10-					ML		Sandy SILT: brown, very fin	e to tine, slightly moist			4
r	1			-		Ш									_
ł				-										-	_
ł		-		-		Ш	Ш	Ш							
58		1		-		Ш					ł				
	₩	器	5.3	15-	$\ \ $	Ш	Ш	Ш	мL	1	light brown, some clay, dry,	hard			
×	₩	<b>XX</b>		_		Ш	Ш		""		-				-
L		-				Ш	$\parallel \parallel \parallel$	Ш			<u> </u>				-
						Ш		Ш			Ĺ				-
Ī				•	$\ \ $	Ш		Ш							-
8	繎			1	1111	Ш		Ш							4
	₩	▩	5.5	20	1111	Ш		Ш	ML						
×	****	١			1111	Ш		Ш	1	l i	Ī				
ŀ		-			$\  \  \ $	Ш		Ш	1	i	†				
ŀ					$\ \ \ $	Ш		Ш	ll .	<u> </u>					Ī
	LXXX	-	-	] .	4111	Ш		Ш			-				-
×	₩	X	5.4	25		Ш	Ш	Ш	1.,,		no clay, increasing sand con	tent			
×	₩	<b>XX</b>			Ш	Ш	Ш	Ш	ML		IN CIAY, IIICICASHIE SAIRI WII				
Г	$\prod$	$\top$										*			-
					1										_
					1						Boring Completed at 26 fe	et.			
ł					1										
ł				30	1						<b>†</b>				
I					-						+				T.
				1	1						}				4
					1						-				-
					]						1				4
					}									•	-
t				35	1				1						4
ţ					1				1						
ŀ					1				1						
1					1						•				
1					1					1	ŀ				1
				40	H						}				1
				"	1						<b>-</b>				-
I					1				1						
Ł			L	<u>.</u>	1_					<u></u>					

Kennedy/Jenks Consultants **Boring Log** 11B Boring Name Northeast corner of Building 67 DRILLER DAC C-6 Phase II DRILLING COMPANY **Project Name** Maness DRILL BIT (S) SIZE <u>954019.01</u> DRILLING METHOD (S) Project Number Geoprobe TOTAL DEPTH DEPTH TO WATER 26 ft. Not Encountered DATE COMPLETED DATE STARTED 4/4/96 4/4/96 J. Knight SOIL DESCRIPTION AND DRILLING REMARKS Depth (feet) Concrete, 4" 5.2 Silty CLAY: dark brown, slightly moist, medium plasticity 5.7 Clayey SILT: brown, trace of very fine sand, dry, hard 6.2 Sandy SILT: brown, very fine to fine sand, slightly moist 6.0 фry some clay, slightly moist 6.2 Boring Completed at 26 feet. 30-35

SORING I	LO	CATION	t to a	- C- C- C- C- C- C- C- C- C- C- C- C- C-	e e	-(C-1)	nd	tor	ks (bnil	ding 43)		DOLING TAME	2A	
ORILLING	GC	OMPAN aness	Y	<u> </u>	¥	Ų.	2440		1000	DRILLER	te	Project NameI	DAC	C-6 Phase II
ORILLING	G M	ETHOD	<b>(S)</b>							DRILL BIT	S) SIZE		<u> 5401</u>	
DEPTH TO	OV	eoprol ATER										ELEVATION		TOTAL DEPTH  26 ft.
LOGGED	BY	ot Enc		reu							-	DATE STARTED 4/5/96		DATE COMPLETED 4/5/96
Recovered S	g IID	Knig	Depth (feet)		Lit	alog	,		USCS Log	Munsell Color	so	IL DESCRIPTION AND DR	ILLING	
2 Sec. 2	3	3 6 3		П	П	П	Ш	П			<u> </u>			
			5-       <sub>ML</sub>								- - -			-
	XXX		5-		ML ML						Clayey SILT: dark brown to	o black, moist, some very fine	e sand	
	***		10-						ML		Sandy SILT: brown to blac	k, very fine to fine sand, sligh	ntly mois	st, with clay
	***		15-	5										
	<b>※</b>		20-						ML		no clay			
	***		25 <sup>-</sup>						ML					
-			20								Boring Completed at 26	feet.		- -
			30											- -
-			35	4							-			- - -
			40											- - - -
-				1							-			

BORING LOCATION	building 43)	Boring Name 12B	
Adjacent to above ground tanks (	DRILLER Pete		6 Parcel A Phase II
Maness DRILLING METHOD (S)	DRILL BIT (S) SIZE		The state of the s
Geoprobe DEPTH TO WATER	2 in.	Project Number954019.1	TAL DEPTH 26 ft.
Not Encountered LOGGED BY			TE COMPLETED 4/5/96
J. Knight	· · · · · · · · · · · · · · · · · · ·	4/5/96	
Depth Lithology USC	; Muneil Color	SOIL DESCRIPTION AND DRILLING RE	MARKS
6 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Clayey SILT: dark	brown, some very fine to fine sand, trace of fine s	gravel, moist
4.9 10- CL	Silty CLAY: dark	brown, moist, medium plasticity	
11.5 15-CL	black, strong diese	el odor	
6.6 <b>20</b> -	Sandy SILT: brow	m, very fine to fine sand, slightly moist, slight die	sel odor
25-	some black clayer	y lenses with strong odor of diesel	
30-	- Boring Complete	ed at 26 feet.	

		ig L							- Cajiot		
BORIN	ЮD	OCATION		have mound to	nka (hnildi	ing 43)		Boring Name	12C		
DRILL	ING	Adjacet COMPAN	<u>t to 2</u> Y	bove ground ta	us ( Dune				DAC	C-6 Parcel A	Phase II
	1	Maness				DRILL BIT (S	W A185	Project Name			
DRILI	ING	METHOL	(S)			DKILL BIT (S	S) SIZE	Project Number	95401	9.01	
DEPTI	I TO	Geopro Water						ELEVATION		TOTAL DEPTH	26 ft.
	]	Not Enc	ounte	red				DATE STARTED		DATE COMPLETED	
LOGG	ED E	sy J. Knig	ht					4/5/96			4/5/96
18	AMPL	Head Space Roading (mg/L)		Lithology	USCS Log	Munsell Color	SOI	IL DESCRIPTION AND	DRILLING	REMARKS	
Driven	3	THE STATE OF THE S	5-		CL		Silty CLAY: dark brown, sli	ightly moist, with organic	material		
		XXXXXX	15		CL		moist, medium plasticity				
		XXX	20	-	ML		Sandy SILT: dark brown, v				-
	▓		25	-	ML		Clayey SILT: brown, slight	ly moist, trace of very fin	e sand		
-			30				Boring Completed at 26 f	čect.			-
•			35	] - - - -							-
-			40	- - - -							-

Kennedy/Jenks Consultants **Boring Log** 13A **Boring Name** Building 29 DAC C-6 Parcel A Phase II DRILLER Project Name DRILLING COMPANY Maness DRILL BIT (S) SIZE 954019.01 DRILLING METHOD (S) Project Number ELEVATION TOTAL DEPTH Geoprobe 26 ft. DEPTH TO WATER Not Encountered DATE COMPLETED DATE STARTED 4/4/96 <u>4/4/96</u> J. Knight SOIL DESCRIPTION AND DRILLING REMARKS Munnell Color Concrete, 4" Clayey SILT: dark brown, trace of very fine sand, slightly moist 4.7 4.9 Sandy SILT: brown, very fine sand,, slightly moist 5.2 Clayey SILT: brown, slightly moist 5.6 20 5.6 25 Boring Completed at 26 feet. 30-35 40

		g Lo							icay/ochies consumina
BORING	GI	CATION	. 20		- <del></del>			Boring Name	13B
DRILLI	NG	uildin COMPAN	Y			DRILLER		Project Name	DAC C-6 Parcel A Phase II
	N	METHOD				Pet DRILL BIT (S	\ C17E		
į	•	eopro	)e			2 in	· ·	Project Number - ELEVATION	954019.01 TOTAL DEPTH
DEPTH	7	MATED		azad					26 ft.
LOGGE	DB	lot End	VUILL	erea				DATE STARTED 4/5/96	DATE COMPLETED 4/5/96
	MPL.	. Knigl	ıt			<del>-                                    </del>	-		
Pau	2	8,4	Depth (feet)	Lithology	USCS Log	Manuell Color	SO	IL DESCRIPTION AND	DRILLING REMARKS
Ortiver Recov	Collec	Spece Spece Reading (mg/l.)					Concrete, 4"		
				mmmm	İ	L	Concrete, 4		
						. [			4
			Ī	111111111111111111111111111111111111111					4
			-			Ī			<u>.</u>
XXXX	_		-	1111111111111111		Ţ			
	▩		5-	{	ML	t	Clayey SILT: mottled light:	and dark brown, moist	
***	~		-			-			1
-			-			ŀ			1
			-	411111111111111111111111111111111111111					1
	]				L_L.				
	88		10-						
	₩		10-		CL	L	Silty CLAY: dark brown, m	ioist, medium plasticity	4
			-			1			4
			-			Ţ			1
		}	-			ŀ			1
55655	ş	1	١.		┝╼╆╵	- <i></i>			
	XX		15 <sup>.</sup>		ML	-	Sandy SILT: brown, very fi	ine sand, slightly moist	1
	200	1	_ َ			-			<b>.</b>
			١.						·
			•						·
			•	]					-
<b>***</b>	<u>.</u>		•	1111111111111111					-
	▩		20	711111111111111	ML	Ī	trace of clay, moist		
****	٩	İ		111111111111111111111111111111111111111			•		
<b> </b>				-		.	-		1
				-		ļ	•		1
		İ	١.	411111111111111		ŀ	•		1
	×	į	25		ML	}	•		1
	88								
	T			]		l	-		-
				1			n.d 01-4-1 -4004	fact	-
			1	1		ļ	Boring Completed at 26 i	icch .	
		1		1			•		
			30	거			•	•	
				-			-		1
				4			-		1
				1			-		
				]			-		-
				_]					-
			35	רי					4
				1					
				1					
				1			-		
				+			•		7
			40	어			-		1
		1	``	1			-		-
						•	-		-
	┸	1	1	1					

		g L				-									
BORIN	GIC	CATION	- 20			-					·	Boring Name —	14		
DRILL	ING (	uildin COMPAN	Y	_						DRILLER		Project Name	DAC	C-6 Parcel A	Phase II
i	N	METHOE								DRILL BI	'ete	•	95401		
	•	eopro	be							2	in.	Project Number -	7340)	TOTAL DEPTH	
DEPTH	TO	WATER		d											26 ft.
LOGGI	ED B	Y										DATE STARTED 4/5/96		DATE COMPLETED	4/5/96
SA	J	. Knig	nt		_	_		7	<del>-                                    </del>					<u> </u>	
			Depth (feet)		Lith	ology	,	١	USCS Log	Muneil Color	so	IL DESCRIPTION AND	DRILLING	G REMARKS	
Driven Recove	Selection	Hoad Space Reading (mg/L)						↲			Concrete, 18"		<del></del>		
				$\otimes$	$\otimes$	X	$\otimes$	8			Concrete, 18				4
				$\widetilde{\mathcal{K}}$	$\mathscr{H}$	$\!$	XX	Ä							-
															4
Ħ			_					1							
<b>XXX</b>	<u></u>		-					8							1
	₩	6.5	5-						CL		Silty CLAY: dark brown, m	oist, medium plasticity			
****	4		-						İ		†				
-			-								<u>'</u>				1
			-						1		+				1
				M	Ш	Ш	Ш	糉	↓		<b></b>				1
	<b>***</b>	5.5	10-	$\ \ $					.,		Sandy SILT: brown, very f	ine sand, some clav. slioh	ntly moist		1
			<b>'</b> ".						ML		Sandy SILT. Diowit, very i	min named acress assold assets			1
			•		Ш	Ш			İ		1				-
				Ш	$\parallel \parallel$	Ш		Ш							4
			-		Ш	Ш		Ш							-
***		l	-			Ш					Ī				
	₩		15	$\  \ $	Ш	Ш			ML		no clay				
***	8	Ì		$\  \ $	Ш	Ш		Ш			·				7
-				Ш		Ш		Ш			}				
				$\parallel \parallel$	Ш	Ш					-				≟.
				$\parallel \parallel$	Ш	Ш		Ш			<b>_</b>				-
		•	20	$ label{eq:linear_loss}  bracket$	Ш	Ш		Ш			1				-
	燚ቖ		20	$\parallel \parallel$	Ш	Ш			ML					•	-
	٦				Ш						· [				-
				111	Ш			Ш							4
				111	Ш		Ш	Ш							4
XXX	8	1		₩	₩	Н	₩	Ш			Clayey SILT: brown, mois				
	▓		25	╢	Ш		Ш	Ш	ML		Clayey Silli. brown, mos	•			
	**	1—	├-	Ш	Ш	Ш	Ш	Ш	<del>                                     </del>	<u> </u>					
				-			,		1		-				-
				1							Boring Completed at 26	feet.			-
				1							}				-
		1	30								1				-
			اد ا								Ļ				-
				1							L				-
		1		1											
				1							•				_
				1	•										
			35	;-							<b>T</b>				, i
				1							<b>†</b>				1
			1	1					1		}				
											-				1
		1		]							-				
											4.				-
		1	40	7					1						4
			İ	1					1						
Ł				1					<u> </u>						
				_				_			•				

		g Lo							
BORI	VG LO	CATION	hwiki	lings 29 and 33				Boring Name	
DRIL	ING C	OMPAN	Y	miss to and on		DRILLER		Project Name	DAC C-6 Parcel A Phase II
DRT I	NO.	<b>(aness</b> ÆTHOD	(5)	·		Pe DRILL BIT (	CO CITE		954019.01
	G	eoprol	e			21	n	Project Number _	TOTAL DEPTH
DEPT	HTO	VATER of Enc							26 ft.
LOGO	ED B	Y						DATE STARTED 4/1/96	DATE COMPLETED 4/1/96
	J AMPLE	. Knigi	ıt				· · · · · · · · · · · · · · · · · · ·		
	I	ë c	Depth (feet)	Lithology	USCS Log	Manaell Color	SO	IL DESCRIPTION AND	DRILLING REMARKS
Driven	9	Space (mg/f.)	,						
П	П			HANNA A			Concrete, 4"		4
									-
			1						- 1
			4						4
×××	8		-				-		_
***	燚	5.7	5-		CL		Silty CLAY: dark brown, m	oist, some very fine sand	
***	<b>2</b>		_						1
			-						•
			_				-		1
	╛╽				$L  \bot  L$				
***	<b>X</b>	6.0	40-						•
	燚ቖ	6.0	10-		ML		Sandy SILT: brown, very fi	ne sand, some clay, mois	-
	וֹ וֹ		•						-
			'						4
			-	111111111111111			-		· · · · · · · · · · · · · · · · · · ·
	×		-		.		<u> </u>		
	▓	5.4	15		ML		very fine to fine sand, no cl	ay	
	<b>X</b>						<b>-</b>		
							ŀ		7
							<u></u>	-	
			l .		LL		L		
	<b>X</b>							•	-
	燚燹	6.2	20		CL		Silty CLAY: dark brown, 11	ioist, micaceous	-
	7		l '						-
			·				[	"	
							Ì		
XXX	<b>Z</b>				<del> </del>		Sandy SILT: light brown, v		
	▓	6.4	25	-	ML		Sandy Sill: light brown, V	ery fine sand, moise	
	<b>**</b>	<b>1</b>	-	ишшш	4				
				4			<b>-</b>		
				1	1		Boring Completed at 26 i	ieet.	1
		1		1	1		-		1
			30	J			-		-
			30	7			<u> </u>		4
				1					-
			1	1	1 1				4
				1					
				4			†		
-			35	<b>;-</b>			<u> </u>		
				4			}		1
		-		1			}		1
				]			1		7
				]			1		-
				]					<del>-</del>
İ			40	7			_		<u> </u>
ł				1					-
Ł				1					
			_						

CORING		CATION		_	_		=						16	
	B	aildin	33							DRILLER		Boring Name		
DRILLIN		OMPAN aness	Y							Pe	te	Project Name	DAC	C-6 Parcel Phase II
DRILLIN	VG N	ETHOE	(S)					,		DRILL BIT (	S) SIZE	Project Number	95401	9.01
DEPTH .	G	CATER	<b>)</b> e							2 i	it.	ELEVATION		TOTAL DEPTH
	N	ot Enc	ounte	red								DATE STARTED		26 ft.  DATE COMPLETED
LOGGE	DB)	Knig	nt								-	4/2/96		4/2/96
1 2	APLE To	, [	Depth (feet)		Lié	olog	,	Ţ	USCS Log	Manuell Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS
Recov.	3	S T		$\overline{}$	$\overline{A}$	$\overline{\mathbf{x}}$	$\nabla$	╁			Concrete, 8"	···· <u>·</u>		
.			_	分	$\widetilde{m}$	$\mathscr{H}$	M	Ž		ŀ	•			1
.								3			-			· · · · · · · · · · · · · · · · · · ·
	-							3			-			-
								3			_			
<b>XXX</b>	ᆈ		1								_			
	▩		5					gc	L		Silty CLAY: dark brown, m	oist, trace of coarse sand,	medium pia	sticity
*****			1								-			_
-			-					3			<u>.</u>			
- ] [			-								-			
			-					3	ĺ		7			
₩	XX		10-					Ŋ,			brown, slightly moist, low p	nlasticity		-
<b>***</b>	▩		10					3	CL		- Otown, sugnity moist, low	plasticity		
														-
			-					3				•		
<b> </b>			-								-	•		
55855			-			III		$\mathbb{H}$	†					
▓▓	$\boxtimes$		15-		Ш	Ш	Ш	Ш,	ML	!	Sandy SILT: brown, very fi	ine to fine, moist		
ቖ	**		_	Ш	Ш	Ш		"			-			•
			_	Ш	Ш	Ш		Ш			-	•		-
				Ш	Ш	Ш	1111	Ш			·			^-
			-		III	Ш		Ш						
<b>****</b>			-	₩	Ш	₩		╫	†					_
₩	▩		20	Ш	Ш	Ш		1	ML		Clayey SILT: brown, moist	t, trace of very fine sand		j
***			-	Ш	Ш	Ш		Ш	Ì		-			
-				Ш	Ш	Ш		$\ $						
			١.	$\parallel \parallel$				Ш	.		<u> </u>			1
	]		١.	Ш	Ш	Ш	Ш	Ш	↓					
	<b></b>		25	$\prod$		Ш			ML		Sandy SILT: brown, very f	ine sand, trace of clay, mo	ist	-
	×		25	Ш										
XXXXX	1		T	Т	لنب			7						
			1	1								_		,
-				1							Boring Completed at 26	Teet.		
<b> </b>				-				١	1		†			
			30	1				l			<b>†</b>			
				1							}			-
								1			_			,
				1										<del>-</del>
				1				١	İ					-
				1				- 1						
			35	-					İ		t			
				1							}			7
				1				1			}			-
			1					١			-			-
			1	1							L			-
				1										· •
		1	40	4				Ì			T			
-				1							<u> </u>			
				+										

BORING LOCATION  North of hydiding 36								Boring Name —	17		
North of building 36  DRILLING COMPANY  Maness  Pete								Project Name	DACC ( Daniel A Dhase II		
DRILLING METHOD (S)  DRILL BIT (S) SIZE								Project Number	954019.		
DEPTH TO WALEK								ELEVATION		otal depth <b>26 ft.</b>	
LOGGED BY								DATE STARTED 4/1/96	D	ATE COMPLETED 4/1/96	
SAM	J. P.F	Knig							DDII I DIC D		
Driven Recovered	Hected	1845	Depth (feet)	Lithology	USCS Log	Manuell Color	SOI	IL DESCRIPTION AND	DRILLING	LMARKS	
리리	<u> </u>	<u>88.5</u>		*****			Asphalt, 2" Concrete, 20"				
1			}				<b></b>				
			]							-	
						-					
	X	6.9	5-		ML		Sandy SILT: brown, very fu	ne, slightly moist, some c	lay	1	
***	2					•				]	
-		-	-			Ī				]	
						Ī					
<b>***</b>	200		-				•			4	
	88	6.3	10		ML					-	
						-				•	
			_			ŀ					
22322							•	•			
	燹	6.1	15-		ML		moist				
****			-								
							·				
							<u>-</u>			_	
	<b>※</b>	6.2	20-		,,,		increasing sand content, ve	ry fine to fine, with dark	brown clayey	lenses	
	***		-		ML		- macasing same concern,			1	
-			-				<u>.</u> -			1	
-			-							]	
****		=	-		ML		-				
	▩	5.8	25-								
	Γ		Γ.							+	
				_			Boring Completed at 26 i	leet.		-	
				-						-	
			30-	4			•				
				1			-				
			'							-	
				1						·	
			35	]			<b>_</b>			-	
			33	1			-			-	
				4			-			-	
				4			·				
				+			-			-	
			40	4			<u> </u>			-	
				1						-	
₽		1	1	4	1	l	<u> </u>				